



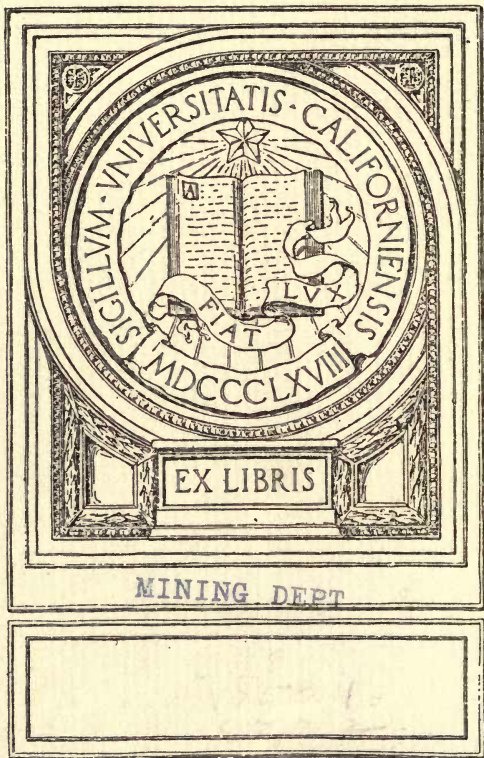
UC-NRLF



B 3 141 353

Measurement of Gases
where
Density Changes

YB 24337





Measurement of Gases

Where Density Changes



COMPILED BY

HENRY P. WESTCOTT

Member A. S. M. E.

— and —

Natural Gas Association



Price Fifty Cents



PUBLISHED BY

METRIC METAL WORKS

ERIE, PENN'A., U. S. A.

TO WHOM
IT MAY COME

TIV 880

W 44

cop. 2

MINING DEPT.

COPYRIGHTED BY
METRIC METAL WORKS
ERIE, PA.

Mining Dept



THE measurement of natural gas by meter, where the density changes, seems to present so many puzzling questions to the man just entering the gas industry, that we have thought it might be helpful to give, in as simple terms as possible, and in so far as we are able, a complete explanation of the matter. Having always made it a point in our business policy to be helpful to the gas trade along scientific lines, as well as to manufacture and sell gas meters, our opinion is naturally sought on many points pertaining to the gas business by those who have had little or no experience.

On the particular question of gas measurement, where the density changes, we receive a great many inquiries, and in defense of this article, can best illustrate by quoting extracts of letters actually received as follows:

"For information you will please advise me on a few points in regard to your meters. Would a meter working under a pressure of less than fifty pounds, say twenty pounds, give the true amount of gas registered, or would the meter reading have to be multiplied by some number to arrive at the true amount of gas passing through it? Say that the dial of the meter shows 60,000 cu. ft., and the average pressure was 15 pounds for the twenty-four hours, what should the reading be if not taken as shown by the meter?"

"We have on our gas lease a meter delivering gas to a farmer, and my understanding is that under the pressure at the wells, viz., 45 pounds, we are delivering more gas than the meter shows. Will you kindly advise me what multiplier table should be used with the meter as shown above?"

"I have a small gas plant and am purchasing natural gas from a pipe line which pipes gas from West Virginia. All along, and up to the present time, my bills, from them have been more than double the total readings of my meters. The Gas

Company insists upon using a multiple basis in computing my bills and this nearly doubles the consumption of gas used as shown by my meters. I need some help in this matter and kindly ask that you give me what information you can as to the trouble in my case."

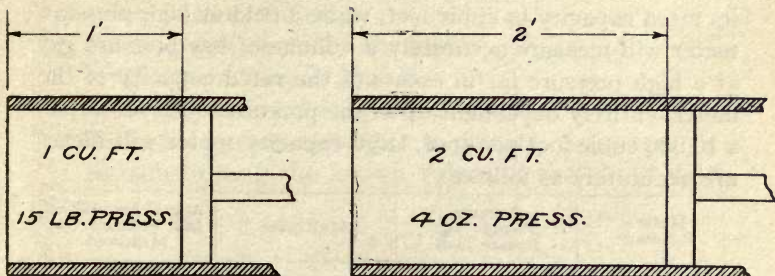
Of course the above inquiries show a lack of knowledge of the business due to inexperience, and in answering them, together with hundreds like them, we have had to give a detailed explanation of the question of gas density.

The "Rock Pressure" of gas wells varies according to the depth of the well and the length of time the well has been drilled; likewise the pressure of the flowing gas in pipe lines, meters, regulators, and gates is extremely variable, and on account of this variation in pressure, it was found necessary to establish some basis on which to sell and buy natural gas.

Some years ago Mr. F. H. Oliphant, at that time of the United States Geological Survey, considered as a basis of natural gas measurement a pressure of 14.65 pounds per square inch absolute, and a temperature of 60 degrees fahr., and since then it has become customary for natural gas men to refer their gas measurements to this basis. A pressure of 14.65 pounds per square inch is 4 ounces above the assumed atmospheric pressure of 14.4 pounds per square inch, the latter being the average at about the elevation of the Great Lakes, which elevation was considered fairly representing that of most gas fields.

At 4-ounce pressure a cubic foot of gas is made up of a certain number of atoms. In order to increase the pressure in a cubic foot of gas confined into a like space, it is necessary to force into that space more gas or more atoms of gas. If a sufficient amount of gas is forced into the confined space, originally holding a cubic foot of gas at 4-ounce pressure, to create 15 pounds pressure, there will then be twice as much gas, or twice as many atoms of gas confined in the same space.

To illustrate, take a cylinder of proper diameter to contain one cubic foot of space for each foot in length fitted with a tight plunger.



If the plunger in the cylinder is placed at the one-foot mark and enough gas forced into the space to create a pressure of fifteen pounds, it could be said that the cylinder contained one cubic foot of 15-pound gas. Then if the plunger is withdrawn until it rests at the two-foot mark the gas will expand and the pressure will drop to four ounces and the actual volume contained in the space will be two cubic feet. In other words, by multiplying the cubic contents in the first cylinder by 2 it will give the actual amount of 4-ounce gas in cubic feet.

As all gas meters in the factory are tested and corrected to a low pressure basis, measuring gas by displacement, they may be compared to the cylinder with the plunger as illustrated above. In measuring gas in the meter, the diaphragms contain just so much space. If the pressure of the gas confined in each quantity or volume of gas measured by the diaphragms filling and discharging is four ounces, then the meter reading needs no correction; but each time the meter diaphragm fills and discharges a volume of gas at a higher pressure than four ounces, the meter reading must be corrected by applying a multiplier, to reduce the volume of gas measured to a four-ounce basis; and the higher the

pressure the greater will be the density of the gas and the greater the number of atoms contained in each cubic foot of space.

A factory meter measuring gas at a low pressure will only measure accurately a volume of low-pressure gas up to its rated capacity in cubic feet, while a field or high-pressure meter will measure accurately a volume of low-pressure gas at a high pressure far in excess of the rated capacity of the meter, entirely dependent upon the pressure. For example, a 10,000 cubic foot per hour, large capacity meter will measure accurately as follows:

Meter Reading	Pressure Pounds per Square Inch	Multiplier	Actual Amount of Low Pressure Gas Measured
10,000	.25	1.0000	10,000
10,000	100.00	7.8088	78,088
10,000	200.00	14.6348	146,348

The above figures are given under the assumption that the meter is working up to its maximum capacity, or 10,000 cubic feet per hour meter reading.

To determine the proper-sized meter to measure any volume the following rule is followed:

Divide the volume of gas to be measured per hour by the multiplier or density at which the gas is to be measured and it will give the meter reading for which to select the proper-sized meter.

Example:—If it is desired to measure 146,348 cubic feet of low-pressure gas per hour at a pressure of 200 pounds— $146,348 \div 14.6348 = 10,000$ cubic feet per hour meter reading.

The multipliers for density are based on Boyle's law written in 1660, that the "volume of a gas varies inversely as the pressure."

While the 4-ounce basis is generally accepted when no other pressure basis is stated in a buying and selling agreement, some other basis can be used and very often is used, particularly when gas is being bought or sold in large volumes in the field.

Formula for Determining the Quantity of Natural Gas When Measured Above Normal Pressure—In which

$$Q=q \frac{p+h}{h+.25}$$

Q =cubic feet required.

q =cubic feet shown by the meter.

p =gauge pressure in pounds.

h =atmospheric pressure of 14.4 pounds.

0.25=4-ounce pressure reduced to pounds.

By substituting the known values in the above it becomes

$$Q=q \frac{p+14.4}{14.65}$$

For Example:—Suppose the meter or q reads 1,000 cubic feet and the pressure p shows 32½ pounds to the square inch, required to find the quantity of gas at a pressure of four ounces. Then

$$Q=1,000 \frac{32.5+14.4}{14.65}=3.2013 \times 1000=3,201.3$$

The result is therefore 3201.3 cubic feet at the standard pressure of four ounces to the square inch.

In the following pages we are pleased to give a set of multiplying tables for gas measured at different pressure bases, each table based on some specific pressure taken as a standard and understood in the contract between buyer and seller. In compiling the multipliers, we have taken atmospheric pressure (which does not show on the gauge) at 14.4 pounds, same being the average atmospheric pressure in the natural gas fields, and temperature of 60 degrees fahr. Usually no correction is made for change in temperature as 60 degrees fahr. represents an average temperature throughout the year.

Multipliers for Reducing Gas or Air Volumes or Meter Readings to a Pressure Base of Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
—25	.14787	17	2.18055	60	5.16666
—24	.18196	18	2.25000	61	5.23611
—23	.21604	19	2.31944	62	5.30555
—22	.25013			63	5.37500
—21	.28421	20	2.38888	64	5.44444
—20	.31828	21	2.45833	65	5.51388
—19	.35238	22	2.52777	66	5.58333
—18	.38647	23	2.59722	67	5.65277
—17	.42055	24	2.66666	68	5.72222
—16	.45464	25	2.73611	69	5.79166
		26	2.80555		
—15	.48872	27	2.87500	70	5.86111
—14	.52281	28	2.94444	71	5.93055
—13	.55689	29	3.01388	72	6.00000
—12	.59098			73	6.06944
—11	.62506	30	3.08333	74	6.13888
—10	.65915	31	3.15277	75	6.20833
— 9	.69323	32	3.22222	76	6.27777
— 8	.72732	33	3.29166	77	6.34722
— 7	.76140	34	3.36111	78	6.41666
— 6	.79549	35	3.43055	79	6.48611
		36	3.50000		
— 5	.82957	37	3.56944	80	6.55555
— 4	.86366	38	3.63888	81	6.62500
— 3	.89774	39	3.70833	82	6.69444
— 2	.93183			83	6.76388
— 1	.96591			84	6.83333
Atmos.	1.00000	40	3.77777	85	6.90277
		41	3.84722	86	6.97222
Lb.		42	3.91666	87	7.04166
per Sq. In.		43	3.98611	88	7.11111
1	1.06944	44	4.05555	89	7.18055
2	1.13888	45	4.12500		
3	1.20833	46	4.19444	90	7.25000
4	1.27777	47	4.26388	91	7.31944
5	1.34722	48	4.33333	92	7.38888
6	1.41666	49	4.40277	93	7.45833
7	1.48611			94	7.52777
8	1.55555	50	4.47222	95	7.59722
9	1.62500	51	4.54166	96	7.66666
		52	4.61111	97	7.73611
10	1.69444	53	4.68055	98	7.80555
11	1.76388	54	4.75000	99	7.87500
12	1.83333	55	4.81944		
13	1.90277	56	4.88888	100	7.94444
14	1.97222	57	4.95833	101	8.01388
15	2.04166	58	5.02777	102	8.08333
16	2.11111	59	5.09722	103	8.15277

—Means "Vacuum" or minus pressure.

Atmospheric Pressure Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
104	8.22222	137	10.51388	170	12.80555
105	8.29166	138	10.58333	171	12.87500
106	8.36111	139	10.65277	172	12.94444
107	8.43055			173	13.01388
108	8.50000	140	10.72222	174	13.08333
109	8.56944	141	10.79166	175	13.15277
		142	10.86111	176	13.22222
110	8.63888	143	10.93055	177	13.29166
111	8.70833	144	11.00000	178	13.36111
112	8.77777	145	11.06944	179	13.43055
113	8.84722	146	11.13888		
114	8.91666	147	11.20833	180	13.50000
115	8.98611	148	11.27777	181	13.56944
116	9.05555	149	11.34722	182	13.63888
117	9.12500			183	13.70833
118	9.14444	150	11.41666	184	13.77777
119	9.26388	151	11.48611	185	13.84722
		152	11.55555	186	13.91666
120	9.33333	153	11.62500	187	13.98611
121	9.40277	154	11.69444	188	14.05555
122	9.47222	155	11.76388	189	14.12500
123	9.54166	156	11.83333		
124	9.61111	157	11.90277	190	14.19444
125	9.68055	158	11.97222	191	14.26388
126	9.75000	159	12.04166	192	14.33333
127	9.81944			193	14.40277
128	9.88888	160	12.11111	194	14.47222
129	9.95833	161	12.18055	195	14.54166
		162	12.25000	196	14.61111
130	10.02777	163	12.31944	197	14.68055
131	10.09722	164	12.38888	198	14.75000
132	10.16666	165	12.45833	199	14.81944
133	10.23611	166	12.52777		
134	10.30555	167	12.59722	200	14.88888
135	10.37500	168	12.66666		
136	10.44444	169	12.73611		

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 2 Ounces Above Atmospheric Pressure.

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
—25	.14660	16	2.09294	60	5.12220
—24	.18039	17	2.16178	61	5.19104
—23	.21418	18	2.23063	62	5.25989
—22	.24798	19	2.29948	63	5.32874
—21	.28177			64	5.39759
—20	.31556	20	2.36833	65	5.46643
—19	.34935	21	2.43717	66	5.53528
—18	.38314	22	2.50602	67	5.60413
—17	.41693	23	2.57487	68	5.67297
—16	.45073	24	2.64371	69	5.74182
		25	2.71256		
—15	.48452	26	2.78141	70	5.81067
—14	.51831	27	2.85025	71	5.87951
—13	.55210	28	2.91910	72	5.94836
—12	.58590	29	2.98795	73	6.01721
—11	.61970			74	6.08605
—10	.65348	30	3.05679	75	6.15490
— 9	.68727	31	3.12564	76	6.22375
— 8	.72107	32	3.19449	77	6.29259
— 7	.75485	33	3.26333	78	6.36144
— 6	.78865	34	3.33218	79	6.43029
		35	3.40103		
— 5	.82244	36	3.46987	80	6.49913
— 4	.85623	37	3.53872	81	6.56798
— 3	.89002	38	3.60757	82	6.63683
— 2	.92381	39	3.67641	83	6.70567
— 1	.95760			84	6.77452
Atmos.	.99139	40	3.74526	85	6.84337
		41	3.81411	86	6.91222
Lb.		42	3.88296	87	6.98106
per Sq. In.		43	3.95180	88	7.04991
2 oz.	1.00000	44	4.02065	89	7.11876
1 lb.	1.06024	45	4.08950		
2	1.12908	46	4.15834	90	7.18760
3	1.19793	47	4.22719	91	7.25645
4	1.26678	48	4.29604	92	7.32530
5	1.33562	49	4.36488	93	7.39414
6	1.40447			94	7.46299
7	1.47332	50	4.43373	95	7.53184
8	1.54216	51	4.50258	96	7.60068
9	1.61101	52	4.57142	97	7.66953
		53	4.64027	98	7.73838
10	1.67986	54	4.70912	99	7.80722
11	1.74870	55	4.77796		
12	1.81755	56	4.84681	100	7.87607
13	1.88640	57	4.91566	101	7.94492
14	1.95524	58	4.98450	102	8.01376
15	2.02409	59	5.05335	103	8.08261

—Means "Vacuum" or minus pressure.

2-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
104	8.15146	148	11.18072	191	14.14113
105	8.22030	149	11.24956	192	14.20998
106	8.28915			193	14.27882
107	8.35800	150	11.31841	194	14.34767
108	8.42685	151	11.38726	195	14.41652
109	8.49569	152	11.45611	196	14.48537
		153	11.52495	197	14.55421
110	8.56454	154	11.59380	198	14.62306
111	8.63339	155	11.66265	199	14.69191
112	8.70223	156	11.73149		
113	8.77108	157	11.80034	200	14.76075
114	8.83993	158	11.86919	201	14.82960
115	8.90877	159	11.93803	202	14.89845
116	8.97762			203	14.96729
117	9.04647	160	12.00688	204	15.03614
118	9.11531	161	12.07573	205	15.10499
119	9.18416	162	12.14457	206	15.17383
		163	12.21342	207	15.24268
120	9.25301	164	12.28227	208	15.31153
121	9.32185	165	12.35111	209	15.38037
122	9.39070	166	12.41996		
123	9.45955	167	12.48881	210	15.44922
124	9.52839	168	12.55765	211	15.51807
125	9.59724	169	12.62650	212	15.58691
126	9.66609			213	15.65576
127	9.73493	170	12.69535	214	15.72461
128	9.80378	171	12.76419	215	15.79345
129	9.87263	172	12.83304	216	15.86230
		173	12.90189	217	15.93115
130	9.94148	174	12.97073	218	16.00000
131	10.01032	175	13.03958	219	16.06884
132	10.07917	176	13.10843		
133	10.14802	177	13.17728	220	16.13769
134	10.21686	178	13.24612	221	16.20654
135	10.28571	179	13.31497	222	16.27538
136	10.35456			223	16.34423
137	10.42340	180	13.38382	224	16.41308
138	10.49225	181	13.45266	225	16.48192
139	10.56110	182	13.52151	226	16.55077
		183	13.59036	227	16.61962
140	10.62994	184	13.65920	228	16.68846
141	10.69879	185	13.72805	229	16.75731
142	10.76764	186	13.79690		
143	10.83648	187	13.86574	230	16.82616
144	10.90533	188	13.93459	231	16.89500
145	10.97418	189	14.00344	232	16.96385
146	11.04302			233	17.03270
147	11.11187	190	14.07228	234	17.10154

2-Ounce Multipliers--(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Densit	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
235	17.17039	279	20.19965	322	23.16006
236	17.23924			323	23.22891
237	17.30808	280	20.26850	324	23.29776
238	17.37693	281	20.33734	325	23.36660
239	17.44578	282	20.40619	326	23.43545
		283	20.47504	327	23.50430
240	17.51462	284	20.54388	328	23.57314
241	17.58347	285	20.61273	329	23.64199
242	17.65232	286	20.68158		
243	17.72117	287	20.75043	330	23.71084
244	17.79001	288	20.81927	331	23.77968
245	17.85886	289	20.88812	332	23.84853
246	17.92771			333	23.91738
247	17.99655	290	20.95697	334	23.98623
248	18.06540	291	21.02581	335	24.05507
249	18.13425	292	21.09466	336	24.12392
		293	21.16351	337	24.19277
250	18.20309	294	21.23235	338	24.26161
251	18.27194	295	21.30120	339	24.33046
252	18.34079	296	21.37005		
253	18.40963	297	21.43889	340	24.39931
254	18.47848	298	21.50774	341	24.46815
255	18.54733	299	21.57659	342	24.53700
256	18.61617			343	24.60585
257	18.68502	300	21.64543	344	24.67469
258	18.75387	301	21.71428	345	24.74354
259	18.82271	302	21.78313	346	24.81239
		303	21.85197	347	24.88123
260	18.89156	304	21.92082	348	24.95008
261	18.96041	305	21.98967	349	25.01893
262	19.02925	306	22.05851		
263	19.09810	307	22.12736	350	25.08777
264	19.16695	308	22.19621	351	25.15662
265	19.23580	309	22.26505	352	25.22547
266	19.30464			353	25.29431
267	19.37349	310	22.33390	354	25.36316
268	19.44234	311	22.40275	355	25.43201
269	19.51118	312	22.47160	356	25.50086
		313	22.54044	357	25.56970
270	19.58003	314	22.60929	358	25.63855
271	19.64888	315	22.67814	359	25.70740
272	19.71772	316	22.74698		
273	19.78657	317	22.81583	360	25.77624
274	19.85542	318	22.88468	361	25.84509
275	19.92426	319	22.95352	362	25.91394
276	19.99311			363	25.98278
277	20.06196	320	23.02237	364	26.05163
278	20.13080	321	23.09122	365	26.12048

2-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
366	26.18932	411	29.28743	456	32.38554
367	26.25817	412	29.35628	457	32.45438
368	26.32702	413	29.42512	458	32.52323
369	26.39586	414	29.49397	459	32.59208
		415	29.56282		
370	26.46471	416	29.63166	460	32.66092
371	26.53356	417	29.70051	461	32.72977
372	26.60240	418	29.76936	462	32.79862
373	26.67125	419	29.83820	463	32.86746
374	26.74010			464	32.93631
375	26.80894	420	29.90705	465	33.00516
376	26.87779	421	29.97590	466	33.07400
377	26.94664	422	30.04475	467	33.14285
378	27.01549	423	30.11359	468	33.21170
379	27.08433	424	30.18244	469	33.28055
		425	30.25129		
380	27.15318	426	30.32013	470	33.34939
381	27.22203	427	30.38898	471	33.41824
382	27.29087	428	30.45783	472	33.48709
383	27.35972	429	30.52667	473	33.55593
384	27.42857			474	33.62478
385	27.49741	430	30.59552	475	33.69363
386	27.56626	431	30.66437	476	33.76247
387	27.63511	432	30.73321	477	33.83132
388	27.70395	433	30.80206	478	33.90017
389	27.77280	434	30.87091	479	33.96901
		435	30.93975		
390	27.84165	436	31.00860	480	34.03786
391	27.91049	437	31.07745	481	34.10671
392	27.97934	438	31.14629	482	34.17555
393	28.04819	439	31.21514	483	34.24440
394	28.11703			484	34.31325
395	28.18588	440	31.28399	485	34.38209
396	28.25473	441	31.35283	486	34.45094
397	28.32357	442	31.42168	487	34.51979
398	28.39242	443	31.49053	488	34.58863
399	28.46127	444	31.55937	489	34.65748
		445	31.62822		
400	28.53012	446	31.69707	490	34.72633
401	28.59896	447	31.76592	491	34.79518
402	28.66781	448	31.83476	492	34.86402
403	28.73666	449	31.90361	493	34.93287
404	28.80550			494	35.00172
405	28.87435			495	35.07056
406	28.94320	450	31.97246	496	35.13941
407	29.01204	451	32.04130	497	35.20826
408	29.08089	452	32.11015	498	35.27710
409	29.14974	453	32.17900	499	35.34595
		454	32.24784		
410	29.21858	455	32.31669	500	35.41480

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 4 Ounces Above Atmospheric Pressure.

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
—25	.14535	8	1.52901	30	3.03071
—24	.17885	8½	1.56313	30½	3.06484
—23	.21236	9	1.59726	31	3.09879
—22	.24586	9½	1.63139	31½	3.13310
—21	.27936			32	3.16723
—20	.31287	10	1.66552	32½	3.20136
—19	.34637	10½	1.69965	33	3.23549
—18	.37987	11	1.73378	33½	3.26962
—17	.41338	11½	1.76791	34	3.30375
—16	.44688	12	1.80204	34½	3.33788
		12½	1.83617		
—15	.48038	13	1.87030	35	3.37201
—14	.51389	13½	1.90443	35½	3.40614
—13	.54739	14	1.93856	36	3.44027
—12	.58090	14½	1.97269	36½	3.47440
—11	.61440			37	3.50853
—10	.64790	15	2.00682	37½	3.54266
— 9	.68141	15½	2.04095	38	3.57679
— 8	.71491	16	2.07508	38½	3.61092
— 7	.74841	16½	2.10921	39	3.64505
— 6	.78191	17	2.14334	39½	3.67918
		17½	2.17747		
— 5	.81542	18	2.21160	40	3.71331
— 4	.84892	18½	2.24573	40½	3.74744
— 3	.88242	19	2.27986	41	3.78156
— 2	.91593	19½	2.31399	41½	3.81569
— 1	.94943			42	3.84982
Atmos.	.98293	20	2.34812	42½	3.88395
Lb.		20½	2.38225	43	3.91808
per Sq. In.		21	2.41638	43½	3.95221
0¼	1.00000	21½	2.45051	44	3.98634
0½	1.01706	22	2.48464	44½	4.02047
1	1.05119	22½	2.51877		
1½	1.08532	23	2.55290	45	4.05460
2	1.11945	23½	2.58703	45½	4.08873
2½	1.15358	24	2.62116	46	4.12286
3	1.18771	24½	2.65528	46½	4.15699
3½	1.22184	25	2.68941	47	4.19112
4	1.25597	25½	2.72354	47½	4.22525
4½	1.29010	26	2.75767	48	4.25938
		26½	2.79180	48½	4.29351
5	1.32423	27	2.82593	49	4.32764
5½	1.35836	27½	2.86006	49½	4.36177
6	1.39249	28	2.89419	50	4.39590
6½	1.42662	28½	2.92832	50½	4.43003
7	1.46075	29	2.96245	51	4.46416
7½	1.49488	29½	2.99658	51½	4.49829

—Means "Vacuum" or minus pressure.

4-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
52	4.53242	74	6.03412	95½	7.50170
52½	4.56655	74½	6.06825	96	7.53583
53	4.60068			96½	7.56996
53½	4.63481	75	6.10238	97	7.60409
54	4.66894	75½	6.13651	97½	7.63822
54½	4.70307	76	6.17064	98	7.67235
		76½	6.20477	98½	7.70648
55	4.73720	77	6.23890	99	7.74061
55½	4.77133	77½	6.27303	99½	7.77474
56	4.80546	78	6.30716		
56½	4.83959	78½	6.34129	100	7.80887
57	4.87372	79	6.37542	101	7.87713
57½	4.90784	79½	6.40955	102	7.94539
58	4.94197			103	8.01365
58½	4.97610	80	6.44368	104	8.08191
59	5.01023	80½	6.47781	105	8.15107
59½	5.04436	81	6.51194	106	8.21843
		81½	6.54607	107	8.28668
60	5.07849	82	6.58020	108	8.35494
60½	5.11262	82½	6.61433	109	8.42320
61	5.14675	83	6.64846		
61½	5.18088	83½	6.68259	110	8.49146
62	5.21501	84	6.71672	111	8.55972
62½	5.24914	84½	6.75085	112	8.62798
63	5.28327			113	8.69624
63½	5.31740	85	6.78498	114	8.76450
64	5.35153	85½	6.81911	115	8.83276
64½	5.38566	86	6.85324	116	8.90102
		86½	6.88737	117	8.96928
65	5.41979	87	6.92150	118	9.03754
65½	5.45392	87½	6.95563	119	9.10580
66	5.48805	88	6.98976		
66½	5.52218	88½	7.02389	120	9.17406
67	5.55631	89	7.05802	121	9.24232
67½	5.59044	89½	7.09215	122	9.31058
68	5.62457			123	9.37883
68½	5.65870	90	7.12627	124	9.44709
69	5.69283	90½	7.16040	125	9.51535
69½	5.72696	91	7.19453	126	9.58361
		91½	7.22866	127	9.65187
70	5.76109	92	7.26279	128	9.72013
70½	5.79522	92½	7.29692	129	9.78839
71	5.82935	93	7.33105		
71½	5.86348	93½	7.36518	130	9.85665
72	5.89761	94	7.39931	131	9.92491
72½	5.93174	94½	7.43344	132	9.99317
73	5.96587			133	10.06143
73½	6.00000	95	7.46757	134	10.12969

4-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
135	10.19795	179	13.20136	222	16.13651
136	10.26621			223	16.20477
137	10.33447	180	13.26962	224	16.27303
138	10.40273	181	13.33788	225	16.34129
139	10.47098	182	13.40614	226	16.40955
		183	13.47440	227	16.47781
140	10.53924	184	13.54266	228	16.54607
141	10.60750	185	13.61092	229	16.61433
142	10.67576	186	13.67918		
143	10.74402	187	13.74744	230	16.68259
144	10.81228	188	13.81569	231	16.75085
145	10.88054	189	13.88395	232	16.81911
146	10.94880			233	16.88737
147	11.01706	190	13.95221	234	16.95563
148	11.08532	191	14.02047	235	17.02389
149	11.15358	192	14.08873	236	17.09215
		193	14.15699	237	17.16040
150	11.22184	194	14.22525	238	17.22866
151	11.29010	195	14.29351	239	17.29692
152	11.35836	196	14.36177		
153	11.42662	197	14.43003	240	17.36518
154	11.49488	198	14.49829	241	17.43344
155	11.56313	199	14.56655	242	17.50170
156	11.63139			243	17.56996
157	11.69965	200	14.63481	244	17.63822
158	11.76791	201	14.70307	245	17.70648
159	11.83617	202	14.77133	246	17.77474
		203	14.83959	247	17.84300
160	11.90443	204	14.90784	248	17.91126
161	11.97269	205	14.97610	249	17.97952
162	12.04095	206	15.04436		
163	12.10921	207	15.11262	250	18.04778
164	12.17747	208	15.18088	251	18.11604
165	12.24573	209	15.24914	252	18.18430
166	12.31392			253	18.25255
167	12.38225	210	15.31740	254	18.32081
168	12.45051	211	15.38566	255	18.38907
169	12.51877	212	15.45392	256	18.45733
		213	15.52218	257	18.52559
170	12.58703	214	15.59044	258	18.59385
171	12.65529	215	15.65870	259	18.66211
172	12.72354	216	15.72696		
173	12.79180	217	15.79522	260	18.73037
174	12.86006	218	15.86348	261	18.79863
175	12.92832	219	15.93174	262	18.86689
176	12.99658			263	18.93515
177	13.06484	220	16.00000	264	19.00341
178	13.13310	221	16.06825	265	19.07167

4-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
266	19.13993	310	22.14334	354	25.14675
267	19.20819	311	22.21160	355	25.21501
268	19.27645	312	22.27986	356	25.28327
269	19.34470	313	22.34812	357	25.35153
		314	22.41638	358	25.41979
270	19.41296	315	22.48464	359	25.48805
271	19.48122	316	22.55290		
272	19.54948	317	22.62116	360	25.55631
273	19.61774	318	22.68941	361	25.62457
274	19.68600	319	22.75767	362	25.69283
275	19.75426			363	25.76109
276	19.82252	320	22.82593	364	25.82935
277	19.89078	321	22.89419	365	25.89761
278	19.95904	322	22.96245	366	25.96587
279	20.02730	323	23.03071	367	26.03412
		324	23.09897	368	26.10238
280	20.09556	325	23.16723	369	26.17064
281	20.16382	326	23.23549		
282	20.23208	327	23.30375	370	26.23890
283	20.30034	328	23.37201	371	26.30716
284	20.36860	329	23.44027	372	26.37542
285	20.43685			373	26.44368
286	20.50511	330	23.50853	374	26.51194
287	20.57337	331	23.57679	375	26.58020
288	20.64163	332	23.64505	376	26.64846
289	20.70989	333	23.71331	377	26.71672
		334	23.78156	378	26.78498
290	20.77815	335	23.84982	379	26.85324
291	20.84641	336	23.91808		
292	20.91467	337	23.98634	380	26.92150
293	20.98293	338	24.05460	381	26.98976
294	21.05119	339	24.12286	382	27.05802
295	21.11945			383	27.12627
296	21.18771	340	24.19112	384	27.19453
297	21.25597	341	24.25938	385	27.26279
298	21.32423	342	24.32764	386	27.33105
299	21.39249	343	24.39590	387	27.39931
		344	24.46416	388	27.46757
300	21.46075	345	24.53242	389	27.53583
301	21.52901	346	24.60068		
302	21.59726	347	24.66894	390	27.60409
303	21.66552	348	24.73720	391	27.67235
304	21.73378	349	24.80546	392	27.74061
305	21.80204			393	27.80887
306	21.87030	350	24.87371	394	27.87713
307	21.93856	351	24.94197	395	27.94539
308	22.00682	352	25.01023	396	28.01365
309	22.07508	353	25.07849	397	28.08191

4-Ounce Multipliers--(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
398	28.15017	432	30.47098	467	32.86006
399	28.21842	433	30.53924	468	32.92832
		434	30.60750	469	32.99658
400	28.28668	435	30.67576		
401	28.35494	436	30.74402	470	33.06484
402	28.42320	437	30.81228	471	33.13310
403	28.49146	438	30.88054	472	33.20136
404	28.55972	439	30.94880	473	33.26962
405	28.62798			474	33.33788
406	28.69624	440	31.01706	475	33.40614
407	28.76450	441	31.08532	476	33.47440
408	28.83276	442	31.15358	477	33.54266
409	28.90102	443	31.22184	478	33.61092
		444	31.29010	479	33.67918
410	28.96928	445	31.35836		
411	29.03754	446	31.42662	480	33.74743
412	29.10580	447	31.49488	481	33.81569
413	29.17406	448	31.56313	482	33.88395
414	29.24232	449	31.63139	483	33.95221
415	29.31057			484	34.02047
416	29.37883	450	31.69965	485	34.08873
417	29.44709	451	31.76791	486	34.15699
418	29.51535	452	31.83617	487	34.22525
419	29.58361	453	31.90443	488	34.29351
		454	31.97269	489	34.36177
420	29.65187	455	32.04095		
421	29.72013	456	32.10921	490	34.43003
422	29.78839	457	32.17747	491	34.49829
423	29.85665	458	32.24573	492	34.56655
424	29.92491	459	32.31399	493	34.63481
425	29.99317			494	34.70307
426	30.06143	460	32.38225	495	34.77133
427	30.12969	461	32.45051	496	34.83959
428	30.19795	462	32.51877	497	34.90784
429	30.26621	463	32.58703	498	34.97610
		464	32.65528	499	35.04436
430	30.33447	465	32.72354		
431	30.40273	466	32.79180	500	35.11262

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 6 Ounces Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
—25	.14412	16	2.05752	60	5.03553
—24	.17734	17	2.12521	61	5.10321
—23	.21056	18	2.19289	62	5.17089
—22	.24378	19	2.26057	63	5.23857
—21	.27700			64	5.30626
—20	.31022	20	2.32825	65	5.37394
—19	.34344	21	2.39593	66	5.44162
—18	.37666	22	2.46362	67	5.50930
—17	.40988	23	2.53130	68	5.57698
—16	.44310	24	2.59898	69	5.64467
		25	2.66666		
—15	.47632	26	2.73434	70	5.71235
—14	.50954	27	2.80203	71	5.78003
—13	.54276	28	2.86971	72	5.84771
—12	.57598	29	2.93739	73	5.91539
—11	.60920			74	5.98307
—10	.64242	30	3.00507	75	6.05076
— 9	.67564	31	3.07275	76	6.11844
— 8	.70886	32	2.14043	77	6.18612
— 7	.74208	33	3.20812	78	6.25380
— 6	.77530	34	3.27580	79	6.32148
		35	3.34348		
— 5	.80852	36	3.41116	80	6.38917
— 4	.84174	37	3.47884	81	6.45685
— 3	.87496	38	3.54653	82	6.52453
— 2	.90817	39	3.61421	83	6.59221
— 1	.94140			84	6.65989
Atmos.	.97461	40	3.68189	85	6.72758
		41	3.74957	86	6.79526
Lb.		42	3.81725	87	6.86294
per Sq. In.		43	3.88494	88	6.93062
6 Oz.	1.00000	44	3.95262	89	6.99830
1 Lb.	1.04230	45	4.02030		
2	1.10998	46	4.08798	90	7.06598
3	1.17766	47	4.15566	91	7.13367
4	1.24534	48	4.22335	92	7.20135
5	1.31302	49	4.29103	93	7.26903
6	1.38071			94	7.33671
7	1.44839	50	4.35871	95	7.40439
8	1.51607	51	4.42639	96	7.47208
9	1.58375	52	4.49407	97	7.53976
		53	4.56175	98	7.60744
10	1.65143	54	4.62944	99	7.67512
11	1.71912	55	4.69712		
12	1.78680	56	4.76480	100	7.74280
13	1.85448	57	4.83248	101	7.81049
14	1.92216	58	4.90016	102	7.87817
15	1.98984	59	4.96785	103	7.94585

—Means "Vacuum" or mixed pressure.

6-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
104	8.01353	148	10.99153	191	13.90186
105	8.08121	149	11.05922	192	13.96954
106	8.14890			193	14.03722
107	8.21658	150	11.12690	194	14.10490
108	8.28426	151	11.19458	195	14.17258
109	8.35194	152	11.26226	196	14.24027
		153	11.32994	197	14.30795
110	8.41962	154	11.39763	198	14.37563
111	8.48730	155	11.46531	199	14.44331
112	8.55499	156	11.53299		
113	8.62267	157	11.60067	200	14.51099
114	8.69035	158	11.66835	201	14.57868
115	8.75803	159	11.73604	202	14.64636
116	8.82571			203	14.71404
117	8.89340	160	11.80372	204	14.78172
118	8.96108	161	11.87140	205	14.84940
119	9.02876	162	11.93908	206	14.91708
		163	12.00676	207	14.98477
120	9.09644	164	12.07445	208	15.05245
121	9.16412	165	12.14213	209	15.12013
122	9.23181	166	12.20981		
123	9.29949	167	12.27749	210	15.18781
124	9.36717	168	12.34517	211	15.25549
125	9.43485	169	12.41285	212	15.32318
126	9.50253			213	15.39086
127	9.57021	170	12.48054	214	15.45854
128	9.63790	171	12.54822	215	15.52622
129	9.70558	172	12.61590	216	15.59390
		173	12.68358	217	15.66159
130	9.77326	174	12.75126	218	15.72927
131	9.84094	175	12.81895	219	15.79695
132	9.90862	176	12.88663		
133	9.97631	177	12.95431	220	15.86463
134	10.04399	178	13.02199	221	15.93231
135	10.11167	179	13.08967	222	16.00000
136	10.17935			223	16.06768
137	10.24703	180	13.15736	224	16.13536
138	10.31472	181	13.22504	225	16.20304
139	10.38240	182	13.29272	226	16.27072
		183	13.36040	227	16.33840
140	10.45008	184	13.42808	228	16.40609
141	10.51776	185	13.49576	229	16.47377
142	10.58544	186	13.56345		
143	10.65313	187	13.63113	230	16.54145
144	10.72081	188	13.69881	231	16.60913
145	10.78849	189	13.76649	232	16.67681
146	10.85617			233	16.74450
147	10.92385	190	13.83417	234	16.81218

6-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
235	16.87986	279	19.85786	322	22.76818
236	16.94754			323	22.83587
237	17.01522	280	19.92554	324	22.90355
238	17.03291	281	19.99323	325	22.97123
239	17.15059	282	20.06091	326	23.03891
		283	20.12859	327	23.10659
240	17.21827	284	20.19627	328	23.17428
241	17.28595	285	20.26395	329	23.24196
242	17.35363	286	20.33164		
243	17.42131	287	20.39932	330	23.30964
244	17.48900	288	20.46700	331	23.37732
245	17.55668	289	20.53468	332	23.44500
246	17.62436			333	23.51269
247	17.69204	290	20.60236	334	23.58037
248	17.75972	291	20.67005	335	23.64805
249	17.82741	292	20.73773	336	23.71573
		293	20.80541	337	23.78341
250	17.89509	294	20.87309	338	23.85109
251	17.96277	295	20.94077	339	23.91878
252	18.03045	296	21.00846		
253	18.09813	297	21.07614	340	23.98646
254	18.16582	298	21.14382	341	24.05414
255	18.23350	299	21.21150	342	24.12182
256	18.30118			343	24.18950
257	18.36886	300	21.27918	344	24.25719
258	18.43654	301	21.34686	345	24.32487
259	18.50423	302	21.41455	346	24.39255
		303	21.48223	347	24.46023
260	18.57191	304	21.54991	348	24.52791
261	18.63959	305	21.61759	349	24.59560
262	18.70727	306	21.68527		
263	18.77495	307	21.75296	350	24.66328
264	18.84263	308	21.82064	351	24.73096
265	18.91032	309	21.88832	352	24.79864
266	18.97800			353	24.86632
267	19.04568	310	21.95600	354	24.93401
268	19.11336	311	22.02368	355	25.00169
269	19.19104	312	22.09137	356	25.06937
		313	22.15905	357	25.13705
270	19.24873	314	22.22673	358	25.20473
271	19.31641	315	22.29441	359	25.27241
272	19.38409	316	22.36209		
273	19.45177	317	22.42978	360	25.34010
274	19.51945	318	22.49746	361	25.40778
275	19.58714	319	22.56514	362	25.47546
276	19.65482			363	25.54314
277	19.72250	320	22.63282	364	25.61082
278	19.79018	321	22.70050	365	25.67851

6-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
366	25.74619	411	28.79187	456	31.83756
367	25.81387	412	28.85956	457	31.90524
368	25.88155	413	28.92724	458	31.97292
369	25.94923	414	28.99492	459	32.04060
		415	29.06260		
370	26.01692	416	29.13028	460	32.10829
371	26.08460	417	29.19796	461	32.17597
372	26.15228	418	29.26565	462	32.24365
373	26.21996	419	29.33333	463	32.31133
374	26.28764			464	32.37901
375	26.35532	420	29.40101	465	32.44670
376	26.42301	421	29.46869	466	32.51438
377	26.49069	422	29.53637	467	32.58206
378	26.55837	423	29.60406	468	32.64974
379	26.62605	424	29.67174	469	32.71742
		425	29.73942		
380	26.69373	426	29.80710	470	32.78510
381	26.76142	427	29.87478	471	32.85279
382	26.82910	428	29.94247	472	32.92047
383	26.89678	429	30.01015	473	32.98815
384	26.96446			474	33.05583
385	27.03214	430	30.07783	475	33.12351
386	27.09983	431	30.14551	476	33.19120
387	27.16751	432	30.21319	477	33.25888
388	28.23519	433	30.28087	478	33.32656
389	27.30287	434	30.34856	479	33.39424
		435	30.41624		
390	27.37055	436	30.48392	480	33.46192
391	27.43824	437	30.55160	481	33.52961
392	27.50592	438	30.61928	482	33.59729
393	27.57360	439	30.68697	483	33.66497
394	27.64128			484	33.73265
395	27.70896	440	30.75465	485	33.80033
396	27.77664	441	30.82233	486	33.86802
397	27.84433	442	30.89001	487	33.93570
398	27.91201	443	30.95769	488	34.00338
399	27.97969	444	31.02538	489	34.07106
		445	31.09306		
400	28.04737	446	31.16074	490	34.13874
401	28.11505	447	31.22842	491	34.20642
402	28.18274	448	31.29610	492	34.27411
403	28.25042	449	31.36379	493	34.34179
404	28.31810			494	34.40947
405	28.38578	450	31.43147	495	34.47715
406	28.45346	451	31.47915	496	34.54483
407	28.52115	452	31.56683	497	34.61252
408	28.58883	453	31.63451	498	34.68020
409	28.65651	454	31.70219	499	34.74788
		455	31.76988		
410	28.72419			500	34.81556

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 8 Ounces Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
-25	.14291	8	1.50335	35	3.31543
-24	.17585	8½	1.53691	36	3.38255
-23	.20879	9	1.57046	37	3.44966
-22	.24173	9½	1.60402	38	3.51677
-21	.27468			39	3.58389
-20	.30762	10	1.63758		
-19	.34056	10½	1.67114	40	3.65100
-18	.37350	11	1.70469	41	3.71812
-17	.40644	11½	1.73825	42	3.78523
-16	.43938	12	1.77181	43	3.85234
		12½	1.80536	44	3.91946
-15	.47232	13	1.83892	45	3.98657
-14	.50526	13½	1.87248	46	4.05369
-13	.53820	14	1.90604	47	4.12080
-12	.57115	14½	1.93959	48	4.18791
-11	.60409			49	4.25503
-10	.63703	15	1.97315		
-9	.66997	15½	2.00671	50	4.32214
-8	.70291	16	2.04026	51	4.38926
-7	.73585	16½	2.07382	52	4.45637
-6	.76879	17	2.10738	53	4.52348
		17½	2.14093	54	4.59060
-5	.80173	18	2.17449	55	4.65771
-4	.83467	18½	2.20805	56	4.72483
-3	.86761	19	2.24161	57	4.79194
-2	.90056	19½	2.27516	58	4.85906
-1	.93350			59	4.92617
Atmos.	.96644	20	2.30872		
1 Lb. per Sq. In.		20½	2.34228	60	4.99328
		21	2.37583	61	5.06040
		21½	2.40939	62	5.12751
0¼	.98322	22	2.44295	63	5.19463
0½	1.00000	22½	2.47651	64	5.26174
1	1.03355	23	2.51006	65	5.32885
1½	1.06711	23½	2.54362	66	5.39597
2	1.10067	24	2.57718	67	5.46308
2½	1.13422	24½	2.61073	68	5.53020
3	1.16778			69	5.59731
3½	1.20134	25	2.64429		
4	1.23489	26	2.71140	70	5.66442
4½	1.26845	27	2.77852	71	5.73154
		28	2.84563	72	5.79865
5	1.30201	29	2.91275	73	5.86577
5½	1.33557	30	2.97986	74	5.93288
6	1.36912	31	3.04697	75	6.00000
6½	1.40268	32	3.11409	76	6.06711
7	1.43624	33	3.18120	77	6.13422
7½	1.46979	34	3.24832	78	6.20134

—Means "Vacuum" or minus pressure.

8-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
79	6.26845	122	9.15436	166	12.10738
80	6.33557	123	9.22147	167	12.17449
81	6.40268	124	9.28859	168	12.24161
82	6.46979	125	9.35570	169	12.30872
83	6.53691	126	9.42281		
84	6.60402	127	9.48993	170	12.37583
85	6.67114	128	9.55704	171	12.44295
86	6.73825	129	9.62416	172	12.51006
87	6.80536			173	12.57718
88	6.87248	130	9.69127	174	12.64429
89	6.93959	131	9.75838	175	12.71140
		132	9.82550	176	12.77852
90	7.00671	133	9.89261	177	12.84563
91	7.07382	134	9.95973	178	12.91275
92	7.14093	135	10.02684	179	12.97986
93	7.20805	136	10.09395		
94	7.27516	137	10.16107	180	13.04697
95	7.34228	138	10.22818	181	13.11409
96	7.40939	139	10.29530	182	13.18120
97	7.47650			183	13.24832
98	7.54362	140	10.36241	184	13.31543
99	7.61073	141	10.42953	185	13.38255
		142	10.49664	186	13.44966
100	7.67785	143	10.56375	187	13.51677
101	7.74496	144	10.63087	188	13.58389
102	7.81208	145	10.69798	189	13.65100
103	7.87919	146	10.76510		
104	7.94630	147	10.83221	190	13.71812
105	8.01342	148	10.89932	191	13.78523
106	8.08053	149	10.96644	192	13.85234
107	8.14765			193	13.91946
108	8.21476	150	11.03355	194	13.98657
109	8.28187	151	11.10067	195	14.05369
		152	11.16778	196	14.12080
110	8.34899	153	11.23489	197	14.18791
111	8.41610	154	11.30201	198	14.25503
112	8.48322	155	11.36912	199	14.32214
113	8.55033	156	11.43624		
114	8.61744	157	11.50335	200	14.38926
115	8.68456	158	11.57046	201	14.45637
116	8.75167	159	11.63758	202	14.52348
117	8.81879			203	14.59060
118	8.88590	160	11.70469	204	14.65771
119	8.95302	161	11.77181	205	14.72473
		162	11.83892	206	14.79194
120	9.02013	163	11.90604	207	14.85906
121	9.08724	164	11.97315	208	14.92617
		165	12.04026	209	14.99328

8-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
210	15.06040	254	18.01342	298	20.96644
211	15.12751	255	18.08053	299	21.03355
212	15.19463	256	18.14765		
213	15.26174	257	18.21476	300	21.10067
214	15.32885	258	18.28187	301	21.16778
215	15.39597	259	18.34899	302	21.23489
216	15.46308			303	21.30201
217	15.53020	260	18.41610	304	21.36912
218	15.59731	261	18.48322	305	21.43624
219	15.66442	262	18.55033	306	21.50335
		263	18.61744	307	21.57046
220	15.73154	264	18.68456	308	21.63758
221	15.79865	265	18.75167	309	21.70469
222	15.86577	266	18.81879		
223	15.93288	267	18.88590	310	21.77181
224	16.00000	268	18.95301	311	21.83892
225	16.06711	269	19.02013	312	21.90603
226	16.13422			313	21.97315
227	16.20134	270	19.08724	314	22.04020
228	16.26845	271	19.15436	315	22.10738
229	16.33557	272	19.22147	316	22.17449
		273	19.28859	317	22.24161
230	16.40268	274	19.35570	318	22.30872
231	16.46979	275	19.42281	319	22.37583
232	16.53691	276	19.48993		
233	16.60402	277	19.55704	320	22.44295
234	16.67114	278	19.62416	321	22.51006
235	16.73825	279	19.69127	322	22.57718
236	16.80536			323	22.64429
237	16.87248	280	19.75838	324	22.71140
238	16.93959	281	19.82550	325	22.77852
239	17.00671	282	19.89261	326	22.84563
		283	19.95973	327	22.91275
240	17.07382	284	20.02684	328	22.97986
241	17.14093	285	20.09395	329	23.04697
242	17.20805	286	20.16107		
243	17.27516	287	20.22818	330	23.11409
244	17.34228	288	20.29530	331	23.18120
245	17.40939	289	20.36241	332	23.24832
246	17.47650			333	23.31543
247	17.54362	290	20.42952	334	23.38255
248	17.61073	291	20.49654	335	23.44966
249	17.67785	292	20.56375	336	23.51677
		293	20.63087	337	23.58389
250	17.74496	294	20.69798	338	23.65100
251	17.81208	295	20.76510	339	23.71812
252	17.87919	296	20.83221		
253	17.94630	297	20.89932	340	23.78523

8-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
341	23.85234	385	26.80536	429	29.75838
342	23.91946	386	26.87248		
343	23.98657	387	26.93959	430	29.82550
344	24.05369	388	27.00671	431	29.89261
345	24.12080	389	27.07382	432	29.95973
346	24.18791			433	30.02684
347	24.25503	390	27.14093	434	30.09395
348	24.32214	391	27.20805	435	30.16107
349	24.38926	392	27.27516	436	30.22818
		393	27.34228	437	30.29530
350	24.45637	394	27.40939	438	30.36241
351	24.52348	395	27.47650	439	30.42952
352	24.59060	396	27.54362		
353	24.65771	397	27.61073	440	30.49664
354	24.72483	398	27.67785	441	30.56375
355	24.79194	399	27.74496	442	30.63087
356	24.85906			443	30.69798
357	24.92617	400	27.81208	444	30.76510
358	24.99328	401	27.87919	445	30.83221
359	25.06040	402	27.94630	446	30.89932
		403	28.01342	447	30.96644
360	25.12751	404	28.08053	448	31.03355
361	25.19463	405	28.14765	449	31.10067
362	25.26174	406	28.21476		
363	25.32885	407	28.28187	450	31.16778
364	25.39597	408	28.34899	451	31.23489
365	25.46308	409	28.41610	452	31.30201
366	25.53020			453	31.36912
367	25.59731	410	28.48322	454	31.43624
368	25.66442	411	28.55033	455	31.50335
369	25.73154	412	28.61744	456	31.57046
		413	28.68456	457	31.63758
370	25.79865	414	28.75167	458	31.70469
371	25.86577	415	28.81879	459	31.77181
372	25.93288	416	28.88590		
373	26.00000	417	28.95301	460	31.83892
374	26.06711	418	29.02013	461	31.90603
375	26.13422	419	29.08724	462	31.97315
376	26.20134			463	32.04026
377	26.26845	420	29.15436	464	32.10738
378	26.33557	421	29.22147	465	32.17449
379	26.40268	422	29.28859	466	32.24161
		423	29.35570	467	32.30872
380	26.46979	424	29.42281	468	32.37583
381	26.53691	425	29.48993	469	32.44295
382	26.60402	426	29.55704		
383	26.67114	427	29.62416	470	32.51006
384	26.73825	428	29.69127	471	32.57718

8-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
472	32.64429	482	33.31543	492	33.98657
473	32.71140	483	33.38254	493	34.05369
474	32.77852	484	33.44966	494	34.12080
475	32.84563	485	33.51677	495	34.18791
476	32.91275	486	33.58389	496	34.25503
477	32.97986	487	33.65100	497	34.32214
478	33.04697	488	33.71812	498	34.38926
479	33.11409	489	33.78523	499	34.45637
480	33.18120	490	33.85234	500	34.52348
481	33.24832	491	33.91946		

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 10-Ounces Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
-25	.14172	7½	1.45757	34	3.22129
-24	.17439	8	1.49084	35	3.28785
-23	.20706	8½	1.52412	36	3.35440
-22	.23972	9	1.55740	37	3.42096
-21	.27239			38	3.48752
-20	.30506	9½	1.59068	39	3.55407
-19	.33772	10	1.62396		
-18	.37039	10½	1.65723	40	3.62063
-17	.40306	11	1.69051	41	3.68718
-16	.43573	11½	1.72379	42	3.75374
		12	1.75707	43	3.82029
-15	.46839	12½	1.79034	44	3.88685
-14	.50106	13	1.82362	45	3.95341
-13	.53373	13½	1.85690	46	4.01996
-12	.56639	14	1.89018	47	4.08652
-11	.59906			48	4.15307
-10	.63173	14½	1.92346	49	4.21963
-9	.66439	15	1.95673		
-8	.69706	15½	1.99001	50	4.28618
-7	.72973	16	2.02329	51	4.35274
-6	.76240	16½	2.05657	52	4.41930
		17	2.08985	53	4.48585
-5	.79506	17½	2.12312	54	4.55241
-4	.82773	18	2.15640	55	4.61896
-3	.86040	18½	2.18968	56	4.68552
-2	.89306	19	2.22296	57	4.75207
-1	.92573			58	4.81863
Atmos.	.95840	19½	2.25623	59	4.88519
		20	2.28951		
Lb.		20½	2.32279	60	4.95174
per Sq. In.		21	2.35607	61	5.01830
.25	.97504	21½	2.38935	62	5.08485
.5	.99168	22	2.42262	63	5.15141
.625	1.00000	22½	2.45590	64	5.21797
1	1.02495	23	2.48918	65	5.28452
1½	1.05823	23½	2.52246	66	5.35108
2	1.09151	24	2.55574	67	5.41763
2½	1.12479			68	5.48419
3	1.15806	24½	2.58901	69	5.55074
3½	1.19134	25	2.62229		
4	1.22462	26	2.68885	70	5.61730
		27	2.75540	71	5.68386
4½	1.25790	28	2.82196	72	5.75041
5	1.29118	29	2.88851	73	5.81697
5½	1.32445	30	2.95507	74	5.88352
6	1.35773	31	3.02163	75	5.95008
6½	1.39101	32	3.08818	76	6.01663
7	1.42429	33	3.15474	77	6.08319

—Means "Vacuum" or minus pressure.

10-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
78	6.14975	121	9.01164	165	11.94009
79	6.21630	122	9.07820	166	12.00665
		123	9.14475	167	12.07321
80	6.28286	124	9.21131	168	12.13976
81	6.34941	125	9.27787	169	12.20632
82	6.41597	126	9.34442		
83	6.48252	127	9.41098	170	12.27287
84	6.54908	128	9.47753	171	12.33943
85	6.61564	129	9.54409	172	12.40598
86	6.68219			173	12.47254
87	6.74875	130	9.61064	174	12.53910
88	6.81530	131	9.67720	175	12.60565
89	6.88186	132	9.74376	176	12.67221
		133	9.81031	177	12.73876
90	6.94841	134	9.87687	178	12.80532
91	7.01497	135	9.94342	179	12.87188
92	7.08153	136	10.00998		
93	7.14808	137	10.07653	180	12.93843
94	7.21464	138	10.14309	181	13.00499
95	7.28119	139	10.20965	182	13.07154
96	7.34775			183	13.13810
97	7.41430	140	10.27620	184	13.20465
98	7.48086	141	10.34276	185	13.27121
99	7.54742	142	10.40931	186	13.33777
		143	10.47587	187	13.40432
100	7.61397	144	10.54242	188	13.47088
101	7.68053	145	10.60898	189	13.53743
102	7.74708	146	10.67554		
103	7.81364	147	10.74209	190	13.60399
104	7.88019	148	10.80865	191	13.67054
105	7.94675	149	10.87520	192	13.73710
106	8.01331			193	13.80366
107	8.07986	150	10.94176	194	13.87021
108	8.14642	151	11.00831	195	13.93677
109	8.21297	152	11.07487	196	14.00332
		153	11.14143	197	14.06988
110	8.27953	154	11.20798	198	14.13643
111	8.34608	155	11.27454	199	14.20297
112	8.41264	156	11.34109		
113	8.47920	157	11.40765	200	14.26950
114	8.54575	158	11.47420	201	14.33610
115	8.61231	159	11.54076	202	14.40266
116	8.67886			203	14.46921
117	8.74542	160	11.60732	204	14.53577
118	8.81197	161	11.67387	205	14.60232
119	8.87853	162	11.74043	206	14.66888
		163	11.80698	207	14.73544
120	8.94504	164	11.87354	208	14.80199

10-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
209	14.86855	252	17.73044	296	20.65890
210	14.93510	253	17.79700	297	20.72545
211	15.00166	254	17.86356	298	20.79201
212	15.06821	255	17.93011	299	20.85856
213	15.13477	256	17.99667	300	20.92512
214	15.20133	257	18.06322	301	20.99168
215	15.26788	258	18.12978	302	21.05823
216	15.33444	259	18.19633	303	21.12479
217	15.40099	260	17.26289	304	21.19134
218	15.46755	261	18.32945	305	21.25790
219	15.53410	262	18.39600	306	21.32445
		263	18.46256	307	21.39101
220	15.60066	264	18.52911	308	21.45757
221	15.66722	265	18.59567	309	21.52412
222	15.73377	266	18.66222		
223	15.80033	267	18.72878	310	21.59068
224	15.86688	268	18.79534	311	21.65723
225	15.93344	269	18.86189	312	21.72379
226	16.00000			313	21.79034
227	16.06655	270	18.92845	314	21.85690
228	16.13311	271	18.99500	315	21.92346
229	16.19966	272	19.06156	316	21.99001
		273	19.12811	317	22.05657
230	16.26622	274	19.19467	318	22.12312
231	16.33277	275	19.26123	319	22.18968
232	16.39933	276	19.32778		
233	16.46589	277	19.39434	320	22.25623
234	16.53244	278	19.46089	321	22.32279
235	16.59900	279	19.52745	322	22.38935
236	16.66555			323	22.45590
237	16.73211	280	19.59400	324	22.52246
238	16.79866	281	19.66056	325	22.58901
239	16.86522	282	19.72712	326	22.65557
		283	19.79367	327	22.72212
240	16.93178	284	19.86023	328	22.78868
241	16.99833	285	19.92678	329	22.85524
242	17.06489	286	19.99334		
243	17.13144	287	20.05990	330	22.92179
244	17.19800	288	20.12645	331	22.98835
245	17.26455	289	20.19301	332	23.05490
246	17.33111			333	23.12146
247	17.39767	290	20.25956	334	23.18801
248	17.46422	291	20.32612	335	23.25457
249	17.53078	292	20.39267	336	23.32113
		293	20.45923	337	23.38768
250	17.59733	294	20.52579	338	23.45424
251	17.66389	295	20.59234	339	23.52079

10-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
340	23.58735	384	26.51580	428	29.44425
341	23.65390	385	26.58236	429	29.51081
342	23.72046	386	26.64891		
343	23.78702	387	26.71547	430	29.57737
344	23.85357	388	26.78202	431	29.64392
345	23.92013	389	26.84858	432	29.71048
346	23.98668			433	29.77703
347	24.05324	390	26.91514	434	29.84359
348	24.11980	391	26.98169	435	29.91014
349	24.18635	392	27.04825	436	29.97670
		393	27.11480	437	30.04326
350	24.25291	394	27.18136	438	30.10981
351	24.31946	395	27.24791	439	30.17637
352	24.38602	396	27.31447		
353	24.45257	397	27.38103	440	30.24292
354	24.51913	398	27.44758	441	30.30948
355	24.58569	399	27.51414	442	30.37603
356	24.65224			443	30.44259
357	24.71880	400	27.58069	444	30.50915
358	24.78535	401	27.64725	445	30.57570
359	24.85191	402	27.71381	446	30.64226
		403	27.78036	447	30.70881
360	24.91846	404	27.84692	448	30.77537
361	24.98502	405	27.91347	449	30.84192
362	25.05158	406	27.98003		
363	25.11813	407	28.04658	450	30.90848
364	25.18469	408	28.11314	451	30.97504
365	25.25124	409	28.17970	452	31.04159
366	25.31780			453	31.10815
367	25.38435	410	28.24625	454	31.17470
368	25.45091	411	28.31281	455	31.24126
369	25.51747	412	28.37936	456	31.30782
		413	28.44592	457	31.37437
370	25.58402	414	28.51247	458	31.44093
371	25.65058	415	28.57903	459	31.50748
372	25.71713	416	28.64559		
373	25.78369	417	28.71214	460	31.57404
374	25.85024	418	28.77870	461	31.64059
375	25.91680	419	28.84525	462	31.70715
376	25.98336			463	31.77371
377	26.04991	420	28.91181	464	31.84026
378	26.11647	421	28.97836	465	31.90682
379	26.18302	422	29.04492	466	31.97337
		423	29.11148	467	32.03993
380	26.24958	424	29.17803	468	32.10648
381	26.31613	425	29.24459	469	32.17304
382	26.38269	426	29.31114		
383	26.44925	427	29.37770	470	32.23960

10-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
471	32.30615	481	32.97171	491	33.63727
472	32.37271	482	33.03826	492	33.70382
473	32.43926	483	33.10482	493	33.77038
474	32.50582	484	33.17138	494	33.83693
475	32.57237	485	33.23793	495	33.90349
476	32.63893	486	33.30449	496	33.97004
477	32.70549	487	33.37104	497	34.03660
478	32.77204	488	33.43760	498	34.10316
479	32.83860	489	33.50415	499	34.16971
480	32.90515	490	33.57071	500	34.23627

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 12 Ounces Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
—25	.14055	15	1.94059	59	4.84488
—24	.17295	16	2.00660		
—23	.20535	17	2.07260	60	4.91089
—22	.23775	18	2.13861	61	4.97689
—21	.27014	19	2.20462	62	5.04290
—20	.30254			63	5.10891
—19	.33494	20	2.27062	64	5.17491
—18	.36734	21	2.33663	65	5.24092
—17	.39973	22	2.40264	66	5.30693
—16	.43213	23	2.46864	67	5.37293
		24	2.53465	68	5.43894
—15	.46453	25	2.60066	69	5.50495
—14	.49693	26	2.66666		
—13	.52932	27	2.73267	70	5.57095
—12	.56172	28	2.79867	71	5.63696
—11	.59412	29	2.86468	72	5.70297
—10	.62652			73	5.76897
— 9	.65891	30	2.93069	74	5.83498
— 8	.69131	31	2.99669	75	5.90099
— 7	.72371	32	3.06270	76	5.96699
— 6	.75611	33	3.12871	77	6.03300
		34	3.19471	78	6.09900
— 5	.78850	35	3.26072	79	6.16501
— 4	.82090	36	3.32673		
— 3	.85330	37	3.39273	80	6.23102
— 2	.88570	38	3.45874	81	6.29702
— 1	.91809	39	3.52475	82	6.36303
Atmos.	.95049			83	6.42904
Lb.		40	3.59075	84	6.49504
per Sq. In.		41	3.65676	85	6.56105
.25	.96699	42	3.72277	86	6.62706
.5	.98349	43	3.78877	87	6.69306
1	1.01650	44	3.85478	88	6.75907
2	1.08250	45	3.92079	89	6.82508
3	1.14851	46	3.98679		
4	1.21452	47	4.05280	90	6.89108
5	1.28052	48	4.11881	91	6.95709
6	1.34653	49	4.18481	92	7.02310
7	1.41254			93	7.08910
8	1.47854	50	4.25082	94	7.15511
9	1.54455	51	4.31683	95	7.22112
		52	4.38283	96	7.28712
		53	4.44884	97	7.35313
10	1.61056	54	4.51485	98	7.41914
11	1.67656	55	4.58085	99	7.48514
12	1.74257	56	4.64686		
13	1.80858	57	4.71287	100	7.55115
14	1.87458	58	4.77887	101	7.61716
				102	7.68316

—Means "Vacuum" or minus pressure.

12-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
103	7.74917	147	10.65346	190	13.49174
104	7.81518	148	10.71947	191	13.55775
105	7.88118	149	10.78547	192	13.62376
106	7.94719			193	13.68976
107	8.01320	150	10.85148	194	13.75577
108	8.07920	151	10.91749	195	13.82178
109	8.14521	152	10.98349	196	13.88778
		153	11.04950	197	13.95379
110	8.21122	154	11.11551	198	14.01980
111	8.27722	155	11.18151	199	14.08580
112	8.34323	156	11.24752		
113	8.40924	157	11.31353	200	14.15181
114	8.47524	158	11.37953	201	14.21782
115	8.54125	159	11.44554	202	14.28382
116	8.60726			103	14.34983
117	8.67326	160	11.51155	204	14.41584
118	8.73927	161	11.57755	205	14.48184
119	8.80528	162	11.64356	206	14.54785
		163	11.70957	207	14.61386
120	8.87128	164	11.77557	208	14.67986
121	8.93729	165	11.84158	209	14.74587
122	9.00330	166	11.90759		
123	9.06930	167	11.97359	210	14.81188
124	9.13531	168	12.03960	211	14.87788
125	9.20132	169	12.10561	212	14.94389
126	9.26732			213	15.00990
127	9.33333	170	12.17161	214	15.07590
128	9.39933	171	12.23762	215	15.14191
129	9.46534	172	12.30363	216	15.20792
		173	12.36963	217	15.27392
130	9.53135	174	12.43564	218	15.33993
131	9.59735	175	12.50165	219	15.40594
132	9.66336	176	12.56765		
133	9.72937	177	12.63366	220	15.47194
134	9.79537	178	12.69966	221	15.53795
135	9.86138	179	12.76567	222	15.60396
136	9.92739			223	15.66996
137	9.99339	180	12.83168	224	15.73597
138	10.05940	181	12.89768	225	15.80198
139	10.12541	182	12.96369	226	15.86798
		183	13.02970	227	15.93399
140	10.19141	184	13.09570	228	16.00000
141	10.25742	185	13.16171	229	16.06600
142	10.32343	186	13.22772		
143	10.38943	187	13.29372	230	16.13201
144	10.45544	188	13.35973	231	16.19801
145	10.52145	189	13.42574	232	16.26402
146	10.58745			233	16.33003

12-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
234	16.39603	278	19.30032	321	22.13861
235	16.46204	279	19.36633	322	22.20462
236	16.52805			323	22.27062
237	16.59405	280	19.43234	324	22.33663
238	16.66006	281	19.49834	325	22.40264
239	16.72607	282	19.56435	326	22.46864
		283	19.63036	327	22.53465
240	16.79207	284	19.69636	328	22.60065
241	16.85808	285	19.76237	329	22.66666
242	16.92409	286	19.82838		
243	16.99009	287	19.89438	330	22.73267
244	17.05610	288	19.96039	331	22.79867
245	17.12211	289	20.02640	332	22.86468
246	17.18811			333	22.93069
247	17.25412	290	20.09240	334	22.99669
248	17.32013	291	20.15841	335	23.06270
249	17.38613	292	20.22442	336	23.12871
		293	20.29042	337	23.19471
250	17.45214	294	20.35643	338	23.26072
251	17.51815	295	20.42244	339	23.32673
252	17.58415	296	20.48844		
253	17.65016	297	20.55445	340	23.39273
254	17.71617	298	20.62046	341	23.45874
255	17.78217	299	20.68646	342	23.52475
256	17.84818			343	23.59075
257	17.91419	300	20.75247	344	23.65676
258	17.98019	301	20.81848	345	23.72277
259	18.04620	302	20.88448	346	23.78877
		303	20.95049	347	23.85478
260	18.11221	304	21.01650	348	23.92079
261	18.17821	305	21.08250	349	23.98679
262	18.24422	306	21.14851		
263	18.31023	307	21.21452	350	24.05280
264	18.37623	308	21.28052	351	24.11881
265	18.44224	309	21.34653	352	24.18481
266	18.50825			353	24.25082
267	18.57425	310	21.41254	354	24.31683
268	18.64026	311	21.47854	355	24.38283
269	18.70627	312	21.54455	356	24.44884
		313	21.61056	357	24.51485
270	18.77227	314	21.67656	358	24.58085
271	18.83828	315	21.74257	359	24.64686
272	18.90429	316	21.80858		
273	18.97029	317	21.87458	360	24.71287
274	19.03630	318	21.94059	361	24.77887
275	19.10231	319	22.00660	362	24.84488
276	19.16831			363	24.91089
277	19.23432	320	22.07260	364	24.97689

12-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density.	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
365	25.04290	410	28.01320	456	31.04950
366	25.10891	411	28.07920	457	31.11551
367	25.17491	412	28.14521	458	31.18151
368	25.24092	413	27.21122	459	31.24752
369	25.30693	414	28.27722	460	31.31353
		415	28.34323	461	31.37953
370	25.37293	416	28.40924	462	31.44554
371	25.43894	417	28.47524	463	31.51155
372	25.50495	418	28.54125	464	31.57755
373	25.57095	419	28.60726	465	31.64356
374	25.63696			466	31.70957
375	25.70297	420	28.67326	467	31.77557
376	25.76897	421	28.73927	468	31.84158
377	25.83498	422	28.80528	469	31.90759
378	25.90099	423	28.87128		
379	25.96699	424	28.93729	470	31.97359
		425	29.00330	471	32.03960
380	26.03300	426	29.06930	472	32.10561
381	26.09901	427	29.13531	473	32.17161
382	26.16501	428	29.20131	474	32.23762
383	26.23102	429	29.26732	475	32.30363
384	26.29702	430	29.33333	476	32.36963
385	26.36303	431	29.39933	477	32.43564
386	26.42904	432	29.46534	478	32.50165
387	26.49504	433	29.53135	479	32.56765
388	26.56105	434	29.59735	480	32.63366
389	26.62706	435	29.66336	481	32.69967
		436	29.72937	482	32.76567
390	26.69306	437	29.79537	483	32.83168
391	26.75907	438	29.86138	484	32.89768
392	26.82508	439	29.92739	485	32.96369
393	26.89108			486	33.02970
394	26.95709	440	29.99339	487	33.09570
395	27.02310	441	30.05940	488	33.16171
396	27.08910	442	30.12541	489	33.22772
397	27.15511	443	30.19141		
398	27.22112	444	30.25742	490	33.29372
399	27.28712	445	30.32343	491	33.35973
		446	30.38943	492	33.42574
400	27.35313	447	30.45544	493	33.49174
401	27.41914	448	30.52145	494	33.55775
402	27.48514	449	30.58745	495	33.62376
403	27.55115			496	33.68976
404	27.61716	450	30.65346	497	33.75577
405	27.68316	451	30.71947	498	33.82178
406	27.74917	452	30.78547	499	33.88778
407	27.81518	453	30.85148		
408	27.88118	454	30.91749	500	33.95379
409	27.94719	455	30.98349		

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 14 Ounces Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
-25	.13940	13	1.79378	57	4.67430
-24	.17154	14	1.85924	58	4.73977
-23	.20367	15	1.92471	59	4.80523
-22	.23580	16	1.99018		
-21	.26793	17	2.05564	60	4.87070
-20	.30006	18	2.12111	61	4.93617
-19	.33220	19	2.18657	62	5.00163
-18	.36433			63	5.06710
-17	.39646	20	2.25204	64	5.13256
-16	.42859	21	2.31751	65	5.19803
		22	2.38297	66	5.26350
-15	.46073	23	2.44844	67	5.32896
-14	.49286	24	2.51391	68	5.39443
-13	.52499	25	2.57937	69	5.45990
-12	.55712	26	2.64484		
-11	.58926	27	2.71031	70	5.52536
-10	.62139	28	2.77577	71	5.59083
- 9	.65352	29	2.84124	72	5.65630
- 8	.68565			73	5.72176
- 7	.71779	30	2.90671	74	5.78723
- 6	.74992	31	2.97217	75	5.85270
		32	3.03764	76	5.91816
- 5	.78205	33	3.10310	77	5.98363
- 4	.81418	34	3.16857	78	6.04909
- 3	.84631	35	3.23404	79	6.11456
- 2	.87845	36	3.29950		
- 1	.91058	37	3.36497	80	6.18003
Atmos.	.94271	38	3.43044	81	6.24549
		39	3.49590	82	6.31096
Lb.				83	6.37643
per Sq. In.		40	3.56137	84	6.44189
.25	.95908	41	3.62684	85	6.50736
.5	.97545	42	3.69230	86	6.57283
.75	.99181	43	3.75777	87	6.63829
.875	1.00000	44	3.82324	88	6.70376
1	1.00818	45	3.88870	89	6.76923
2	1.07364	46	3.95417		
3	1.13911	47	4.01963	90	6.83469
4	1.20458	48	4.08510	91	6.90016
5	1.27004	49	4.15057	92	6.96563
6	1.33551			93	7.03109
7	1.40098	50	4.21603	94	7.09656
8	1.46644	51	4.28150	95	7.16202
9	1.53191	52	4.34697	96	7.22749
		53	4.41243	97	7.29296
10	1.59738	54	4.47790	98	7.35842
11	1.66284	55	4.54337	99	7.42389
12	1.72831	56	4.60883	100	7.48936

—Means "Vacuum" or minus pressure.

14-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
101	7.55482	145	10.43535	189	13.31587
102	7.62029	146	10.50081		
103	7.68576	147	10.56628	190	13.38134
104	7.75122	148	10.63175	191	13.44680
105	7.81669	149	10.69721	192	13.51227
106	7.88216			193	13.57774
107	7.94762	150	10.76268	194	13.64320
108	8.01309	151	10.82815	195	13.70867
109	8.07855	152	10.89361	196	13.77414
		153	10.95908	197	13.83960
110	8.14402	154	11.02454	198	13.90507
111	8.20949	155	11.09001	199	13.97054
112	8.27495	156	11.15548		
113	8.34042	157	11.22094	200	14.03600
114	8.40589	158	11.28641	201	14.10147
115	8.47135	159	11.35188	202	14.16693
116	8.53682			203	14.23240
117	8.60229	160	11.41734	204	14.29787
118	8.66775	161	11.48281	205	14.36333
119	8.73322	162	11.54828	206	14.42880
		163	11.61374	207	14.49427
120	8.79869	164	11.67921	208	14.55973
121	8.86415	165	11.74468	209	14.62520
122	8.92962	166	11.81014		
123	8.99508	167	11.87561	210	14.69067
124	9.06055	168	11.94108	211	14.75613
125	9.12602	169	12.00654	212	14.82160
126	9.19148			213	14.88707
127	9.25695	170	12.07201	214	14.95253
128	9.32242	171	12.13747	215	15.01800
129	9.38788	172	12.20294	216	15.08346
		173	12.26841	217	15.14893
130	9.45335	174	12.33387	218	15.21440
131	9.51882	175	12.39934	219	15.27986
132	9.58428	176	12.46481		
133	9.64975	177	12.53027	220	15.34533
134	9.71522	178	12.59574	221	15.41080
135	9.78068	179	12.66121	222	15.47626
136	9.84615			223	15.54173
137	9.91162	180	12.72667	224	15.60720
138	9.97708	181	12.79214	225	15.67266
139	10.04255	182	12.85761	226	15.73813
		183	12.92307	227	15.80360
140	10.10801	184	12.98854	228	15.86906
141	10.17348	185	13.05400	229	15.93453
142	10.23895	186	13.11947		
143	10.30441	187	13.18494	230	15.99999
144	10.36988	188	13.25040	231	16.06546
				232	16.13093

14-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
233	16.19639	277	19.07692	320	21.89198
234	16.26186	278	19.14238	321	21.95744
235	16.32733	279	19.20785	322	22.02291
236	16.39279			323	22.08837
237	16.45826	280	19.27332	324	22.15384
238	16.52373	281	19.33878	325	22.21931
239	16.58919	282	19.40425	326	22.28477
		283	19.46972	327	22.35024
240	16.65466	284	19.53518	328	22.41571
241	16.72013	285	19.60065	329	22.48117
242	16.78559	286	19.66612		
243	16.85106	287	19.73158	330	22.54664
244	16.91653	288	19.79705	331	22.61211
245	16.98199	289	19.86252	332	22.67757
246	17.04746			333	22.74304
247	17.11292			334	22.80851
248	17.17839	290	19.92798	335	22.87397
249	17.24386	291	19.99345	336	22.93944
		292	20.05891	337	23.00490
250	17.30932	293	20.12438	338	23.07037
251	17.37479	294	20.18985	339	23.13584
252	17.44026	295	20.25531		
253	17.50572	296	20.32078	340	23.20130
254	17.57119	297	20.38625	341	23.26677
255	17.63666	298	20.45171	342	23.33224
256	17.70212	299	20.51718	343	23.39770
257	17.76759			344	23.46317
258	17.83306	300	20.58265	345	23.52864
259	17.89852	301	20.64811	346	23.59410
		302	20.71358	347	23.65957
260	17.96399	303	20.77905	348	23.72504
261	18.02945	304	20.84451	349	23.79050
262	18.09492	305	20.90998		
263	18.16039	306	20.97544	350	23.85597
264	18.22585	307	21.04091	351	23.92144
265	18.29132	308	21.10638	352	23.98690
266	18.35679	309	21.17184	353	24.05237
267	18.42225			354	24.11783
268	18.48772	310	21.23731	355	24.18330
269	18.55319	311	21.30278	356	24.24877
		312	21.36824	357	24.31423
270	18.61865	313	21.43371	358	24.37970
271	18.68412	314	21.49918	359	24.44517
272	18.74959	315	21.56464		
273	18.81505	316	21.63011	360	24.51063
274	18.88052	317	21.69558	361	24.57610
275	18.94599	318	21.76104	362	24.64157
276	19.01145	319	21.82651	363	24.70703

14-Ounce Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
364	24.77250	410	27.78396	456	30.79541
365	24.83797	411	27.84942	457	30.86088
366	24.90343	412	27.91489	458	30.92635
367	24.96890	413	27.98035	459	30.99181
368	25.03436	414	28.04582		
369	25.09983	415	28.11129	460	31.05728
		416	28.17675	461	31.12274
370	25.16530	417	28.24222	462	31.18821
371	25.23076	418	28.30769	463	31.25368
372	25.29623	419	28.37315	464	31.31914
373	25.36170			465	31.38461
374	25.42716	420	28.43862	466	31.45008
375	25.49263	421	28.50409	467	31.51554
376	25.55810	422	28.56955	468	31.58101
377	25.62356	423	28.63502	469	31.64648
378	25.68903	424	28.70049		
379	25.75450	425	28.76595	470	31.71194
		426	28.83142	471	31.77741
380	25.81996	427	28.89689	472	31.84288
381	25.88543	428	28.96235	473	31.90834
382	25.95089	429	29.02782	474	31.97381
383	26.01636			475	32.03927
384	26.08183	430	29.09328	476	32.10474
385	26.14729	431	29.15875	477	32.17021
386	26.21276	432	29.22422	478	32.23567
387	26.27823	433	29.28968	479	32.30114
388	26.34369	434	29.35515		
389	26.40916	435	29.42062	480	32.36661
		436	29.48608	481	32.43207
390	26.47463	437	29.55155	482	32.49754
391	26.54009	438	29.61702	483	32.56301
392	26.60556	439	29.68248	484	32.62847
393	26.67103			485	32.69394
394	26.73649	440	29.74795	486	32.75941
395	26.80196	441	29.81342	487	32.82487
396	26.86743	442	29.87888	488	32.89034
397	26.93289	443	29.94435	489	32.95580
398	26.99836	444	30.00981		
399	27.06382	445	30.07528	490	33.02127
		446	30.14075	491	33.08674
400	27.12929	447	30.20621	492	33.15220
401	27.19476	448	30.27168	493	33.21767
402	27.26022	449	30.33715	494	33.28314
403	27.32569			495	33.34860
404	27.39116	450	30.40261	496	33.41407
405	27.45662	451	30.46808	497	33.47954
406	27.52209	452	30.53355	498	33.54500
407	27.58756	453	30.59901	499	33.61047
408	27.65302	454	30.66448		
409	27.71849	455	30.72995	500	33.67594

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 1 Pound Above Atmospheric Pressure.

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
-25	.13827	7½	1.42207	34	3.14285
-24	.17014	8	1.45454	35	3.20779
-23	.20201	8½	1.48701	36	3.27272
-22	.23389	9	1.51948	37	3.33766
-21	.26576	9½	1.55194	38	3.40259
-20	.29763			39	3.46753
-19	.32950	10	1.58441		
-18	.36137	10½	1.61688	40	3.53246
-17	.39324	11	1.64935	41	3.59740
-16	.42512	11½	1.68181	42	3.66233
		12	1.71428	43	3.72727
-15	.45799	12½	1.74675	44	3.79220
-14	.48883	13	1.77922	45	3.85714
-13	.52073	13½	1.81168	46	3.92207
-12	.55260	14	1.84415	47	3.98701
-11	.58447	14½	1.87662	48	4.05194
-10	.61634			49	4.11688
-9	.64822	15	1.90909		
-8	.68009	15½	1.94155	50	4.18181
-7	.71196	16	1.97402	51	4.24675
-6	.74383	16½	2.00649	52	4.31168
		17	2.03896	53	4.37662
-5	.77570	17½	2.07142	54	4.44155
-4	.80757	18	2.10389	55	4.50649
-3	.83945	18½	2.13636	56	4.57142
-2	.87132	19	2.16883	57	4.63636
-1	.90319	19½	2.20129	58	4.70129
Atmos.	.93506			59	4.76623
		20	2.23376		
Lb. per Sq. In.		20½	2.26623	60	4.83116
		21	2.29870	61	4.89610
.25	.95129	21 ½	2.33116	62	4.96103
.5	.96753	22	2.36363	63	5.02597
.625	.97564	22½	2.39610	64	5.09090
1	1.00000	23	2.42857	65	5.15584
1½	1.03246	23½	2.46103	66	5.22077
2	1.06493	24	2.49350	67	5.28571
2½	1.09740	24½	2.52597	68	5.35064
3	1.12987			69	5.41558
3½	1.16233	25	2.55844		
4	1.19480	26	2.62337	70	5.48051
4½	1.22727	27	2.68831	71	5.54545
		28	2.75324	72	5.61038
5	1.25974	29	2.81818	73	5.67532
5½	1.29220	30	2.88311	74	5.74025
6	1.32467	31	2.94805	75	5.80519
6½	1.35714	32	3.01298	76	5.87012
7	1.38961	33	3.07792	77	5.93506

—Means "Vacuum" or minus pressure.

1-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
78	6.00000	121	8.79220	165	11.64935
79	6.06493	122	8.85714	166	11.71428
		123	8.92207	167	11.77922
80	6.12987	124	8.98701	168	11.84415
81	6.19480	125	9.05194	169	11.90909
82	6.25974	126	9.11688		
83	6.32467	127	9.18181	170	11.97402
84	6.38961	128	9.24675	171	12.03896
85	6.45454	129	9.31168	172	12.10389
86	6.51948			173	12.16883
87	6.58441	130	9.37662	174	12.23376
88	6.64935	131	9.44155	175	12.29870
89	6.71428	132	9.50649	176	12.36363
		133	9.57142	177	12.42857
90	6.77922	134	9.63636	178	12.49350
91	6.84415	135	9.70129	179	12.55844
92	6.90909	136	9.76623		
93	6.97402	137	9.83116	180	12.62337
94	7.03896	138	9.89610	181	12.68831
95	7.10389	139	9.96103	182	12.75324
96	7.16883			183	12.81818
97	7.23376	140	10.02597	184	12.88311
98	7.29870	141	10.09090	185	12.94805
99	7.36363	142	10.15584	186	13.01298
		143	10.22077	187	13.07792
100	7.42857	144	10.28571	188	13.14285
101	7.49350	145	10.35064	189	13.20779
102	7.55844	146	10.41558		
103	7.62337	147	10.48051	190	13.27272
104	7.68831	148	10.54545	191	13.33766
105	7.75324	149	10.61038	192	13.40259
106	7.81818			193	13.46753
107	7.88311	150	10.67532	194	13.53246
108	7.94805	151	10.74025	195	13.59740
109	8.01298	152	10.80519	196	13.66233
		153	10.87012	197	13.72727
110	8.07792	154	10.93506	198	13.79220
111	8.14285	155	11.00000	199	13.85714
112	8.20779	156	11.06493		
113	8.27272	157	11.12987	200	13.92207
114	8.33766	158	11.19480	201	13.98701
115	8.40259	159	11.25974	202	14.05194
116	8.46753			203	14.11688
117	8.53246	160	11.32467	204	14.18181
118	8.59740	161	11.38961	205	14.24675
119	8.66233	162	11.45454	206	14.31168
		163	11.51948	207	14.37662
120	8.72727	164	11.58441	208	14.44155

1-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
209	14.50649	252	17.29870	296	20.15584
		253	17.36363	297	20.22077
210	14.57142	254	17.42857	298	20.28571
211	14.63636	255	17.49350	299	20.35064
212	14.70129	256	17.55844		
213	14.76623	257	17.62337	300	20.41558
214	14.83116	258	17.68831	301	20.48051
215	14.89610	259	17.75324	302	20.54545
216	14.96103			303	20.61038
217	15.02597	260	17.81818	304	20.67532
218	15.09090	261	17.88311	305	20.74025
219	15.15584	262	17.94805	306	20.80519
		263	18.01298	307	20.87012
220	15.22077	264	18.07792	308	20.93506
221	15.28571	265	18.14285	309	21.00000
222	15.35064	266	18.20779		
223	15.41558	267	18.27272	310	21.06493
224	15.48051	268	18.33766	311	21.12987
225	15.54545	269	18.40259	312	21.19480
226	15.61038			313	21.25974
227	15.67532	270	18.46753	314	21.32467
228	15.74025	271	18.53246	315	21.38961
229	15.80519	272	18.59740	316	21.45454
		273	18.66233	317	21.51948
230	15.87012	274	18.72727	318	21.58441
231	15.93506	275	18.79220	319	21.64935
232	16.00000	276	18.85714		
233	16.06493	277	18.92207	320	21.71428
234	16.12987	278	18.98701	321	21.77922
235	16.19480	279	19.05194	322	21.84415
236	16.25974			323	21.90909
237	16.32467	280	19.11688	324	21.97402
238	16.38961	281	19.18181	325	22.03896
239	16.45454	282	19.24675	326	22.10389
		283	19.31168	327	22.16883
240	16.51948	284	19.37662	328	22.23376
241	16.58441	285	19.44155	329	22.29870
242	16.64935	286	19.50649		
243	16.71428	287	19.57142	330	22.36363
244	16.77922	288	19.63636	331	22.42857
245	16.84415	289	19.70129	332	22.49350
246	16.90909			333	22.55844
247	16.97402	290	19.76623	334	22.62337
248	17.03896	291	19.83116	335	22.68831
249	17.10389	292	19.89610	336	22.75324
		293	19.96103	337	22.81818
250	17.16883	294	20.02597	338	22.88311
251	17.23376	295	20.09090	339	22.94805

1-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
340	23.01298	384	25.87012	428	28.72727
341	23.07792	385	25.93506	429	28.79220
342	23.14285	386	26.00000		
343	23.20779	387	26.06493	430	28.85714
344	23.27272	388	26.12987	431	28.92207
345	23.33766	389	26.19480	432	28.98701
346	23.40259			433	29.05194
347	23.46753	390	26.25974	434	29.11688
348	23.53246	391	26.32467	435	29.18181
349	23.59740	392	26.38961	436	29.24675
		393	26.45454	437	29.31168
350	23.66233	394	26.51948	438	29.37662
351	23.72727	395	26.58441	439	29.44155
352	23.79220	396	26.64935		
353	23.85714	397	26.71428	440	29.50649
354	23.92207	398	26.77922	441	29.57142
355	23.98701	399	26.84415	442	29.63636
356	24.05194			443	29.70129
357	24.11688	400	26.90909	444	29.76623
358	24.18181	401	26.97402	445	29.83116
359	24.24675	402	27.03896	446	29.89610
		403	27.10389	447	29.96103
360	24.31168	404	27.16883	448	30.02397
361	24.37662	405	27.23376	449	30.09090
362	24.44155	406	27.29870		
363	24.50649	407	27.36363	450	30.15584
364	24.57142	408	27.42857	451	30.22077
365	24.63636	409	27.49350	452	30.28571
366	24.70129			453	30.35064
367	24.76623	410	27.55844	454	30.41558
368	24.83116	411	27.62337	455	30.48051
369	24.89610	412	27.68831	456	30.54545
		413	27.75324	457	30.61038
370	24.96103	414	27.81818	458	30.67532
371	25.02597	415	27.88311	459	30.74025
372	25.09090	416	27.94805		
373	25.15584	417	28.01298	460	30.80519
374	25.22077	418	28.07792	461	30.87012
375	25.28571	419	28.14285	462	30.93506
376	25.35064			463	31.00000
377	25.41558	420	28.20779	464	31.06493
378	25.48051	421	28.27272	465	31.12987
379	25.54545	422	28.33766	466	31.19480
		423	28.40259	467	31.25974
380	25.61038	424	28.46753	468	31.32467
381	25.67532	425	28.53246	469	31.38961
382	25.74025	426	28.59740		
383	25.80519	427	28.66233	470	31.45454

1-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
471	31.51948	481	32.16883	491	32.81818
472	31.58441	482	32.23376	492	32.88311
473	31.64935	483	32.29870	493	32.94805
474	31.71428	484	32.36363	494	33.01298
475	31.77922	485	32.42857	495	33.07792
476	31.84415	486	32.49350	496	33.14285
477	31.90909	487	32.55844	497	33.20779
478	31.97402	488	32.62337	498	33.27272
479	32.03896	489	32.68831	499	33.33766
480	32.10389	490	32.75324	500	33.40259

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure of 1½ Lb. Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
—25	.13392	13	1.72327	57	4.49056
—24	.16479	14	1.78616	58	4.55345
—23	.19566	15	1.84905	59	4.61635
—22	.22653	16	1.91194		
—21	.25740	17	1.97484	60	4.67924
—20	.28827	18	2.03773	61	4.74213
—19	.31914	19	2.10062	62	4.80503
—18	.35001			63	4.86792
—17	.38088	20	2.16352	64	4.93081
—16	.41175	21	2.22641	65	4.99371
		22	2.28930	66	5.05660
—15	.44262	23	2.35220	67	5.11949
—14	.47349	24	2.41509	68	5.18238
—13	.50435	25	2.47798	69	5.24528
—12	.53522	26	2.54088		
—11	.56609	27	2.60377	70	5.30817
—10	.59696	28	2.66666	71	5.37106
— 9	.62783	29	2.72955	72	5.43396
— 8	.65870			73	5.49685
— 7	.68957	30	2.79245	74	5.55974
— 6	.72044	31	2.85534	75	5.62264
		32	2.91823	76	5.68553
— 5	.75131	33	2.98113	77	5.74842
— 4	.78218	34	3.04402	78	5.81132
— 3	.81305	35	3.10691	79	5.87421
— 2	.84392	36	3.16981		
— 1	.87479	37	3.23270	80	5.93710
Atmos.	.90566	38	3.29559	81	6.00000
		39	3.35849	82	6.06289
Lb. per Sq. In.				83	6.12578
		40	3.42138	84	6.18867
.25	.92138	41	3.48427	85	6.25157
.5	.93710	42	3.54716	86	6.31446
.625	.94496	43	3.61006	87	6.37735
1.	.96855	44	3.67295	88	6.44015
1.5	1.00000	45	3.73584	89	6.50314
2	1.03144	46	3.79874	90	6.56603
3	1.09433	47	3.86163	91	6.62893
4	1.15723	48	3.92452	92	6.69182
5	1.22012	49	3.98742	93	6.75471
6	1.28301			94	6.81760
7	1.34591	50	4.05031	95	6.88050
8	1.40880	51	4.11320	96	6.94339
9	1.47169	52	4.17610	97	7.00628
		53	4.23899	98	7.06918
10	1.53459	54	4.30188	99	7.13207
11	1.59748	55	4.36477		
12	1.66037	56	4.42767	100	7.19496

—Means "Vacuum" or minus pressure.

1½-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
101	7.25786	145	10.02515	189	12.79245
102	7.32075	146	10.08805		
103	7.38364	147	10.15094	190	12.85534
104	7.44654	148	10.21383	191	12.91823
105	7.50943	149	10.27672	192	12.98113
106	7.57232			193	13.04402
107	7.63522	150	10.33962	194	13.10691
108	7.69811	151	10.40251	195	13.16981
109	7.76100	152	10.46540	196	13.23270
		153	10.52830	197	13.29559
110	7.82389	154	10.59119	198	13.35849
111	7.88679	155	10.65408	199	13.42138
112	7.94968	156	10.71698		
113	8.01257	157	10.77987	200	13.48427
114	8.07547	158	10.84276	201	13.54716
115	8.13836	159	10.90566	202	13.61006
116	8.20125			203	13.67295
117	8.26415	160	10.96855	204	13.73584
118	8.32704	161	11.03144	205	13.79874
119	8.38993	162	11.09433	206	13.86163
		163	11.15723	207	13.92452
120	8.45283	164	11.22012	208	13.98742
121	8.51572	165	11.28301	209	14.05031
122	8.57861	166	11.34591		
123	8.64150	167	11.40880	210	14.11320
124	8.70440	168	11.47169	211	14.17610
125	8.76729	169	11.53459	212	14.23899
126	8.83018			213	14.30188
127	8.89308	170	11.59748	214	14.36477
128	8.95579	171	11.66037	215	14.42767
129	9.01886	172	11.72327	216	14.49056
		173	11.78616	217	14.55345
130	9.08176	174	11.84905	218	14.61635
131	9.14465	175	11.91194	219	14.67924
132	9.20754	176	11.97484		
133	9.27044	177	12.03773	220	14.74213
134	9.33333	178	12.10062	221	14.80503
135	9.39622	179	12.16352	222	14.86792
136	9.45911			223	14.93081
137	9.52201	180	12.22641	224	14.99371
138	9.58490	181	12.28930	225	15.05660
139	9.64779	182	12.35220	226	15.11949
		183	12.41509	227	15.18238
140	9.71069	184	12.47798	228	15.24528
141	9.77358	185	12.54088	229	15.30817
142	9.83647	186	12.60377		
143	9.89937	187	12.66666	230	15.37106
144	9.96226	188	12.72955	231	15.43396

1½-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
232	15.49685	276	18.26415	320	21.03144
233	15.55974	277	18.32704	321	21.09433
234	15.62264	278	18.38993	322	21.15723
235	15.68553	279	18.45282	323	21.22012
236	15.74842			324	21.28301
237	15.81132	280	18.51572	325	21.34591
238	15.87421	281	18.57861	326	21.40880
239	15.93710	282	18.64150	327	21.47169
		283	18.70440	328	21.53459
240	16.00000	284	18.76729	329	21.59748
241	16.06289	285	18.83018		
242	16.12578	286	18.89308	330	21.66037
243	16.18867	287	18.95597	331	21.72327
244	16.25157	288	19.01886	332	21.78616
245	16.31446	289	19.08176	333	21.84905
246	16.37735			334	21.91194
247	16.44025	290	19.14465	335	21.97484
248	16.50314	291	19.20754	336	22.03773
249	16.56603	292	19.27044	337	22.10062
		293	19.33333	338	22.16352
250	16.62893	294	19.39622	339	22.22641
251	16.69182	295	19.45911		
252	16.75471	296	19.52201	340	22.28930
253	16.81760	297	19.58490	341	22.35220
254	16.88050	298	19.64779	342	22.41509
255	16.94339	299	19.71069	343	22.47798
256	17.00628			344	22.54088
257	17.06918	300	19.77358	345	22.60377
258	17.13207	301	19.83647	346	22.66666
259	17.19496	302	19.89937	347	22.72955
		303	19.96226	348	22.79245
260	17.25786	304	20.02515	349	22.85534
261	17.32075	305	20.08805		
262	17.38364	306	20.15094	350	22.91823
263	17.44654	307	20.21383	351	22.98113
264	17.50943	308	20.27672	352	23.04402
265	17.57232	309	20.33962	353	23.10691
266	17.63521			354	23.16981
267	17.69811	310	20.40251	355	23.23270
268	17.76100	311	20.46540	356	23.29559
269	17.82389	312	20.52830	357	23.35849
		313	20.59119	358	23.42138
270	17.88679	314	20.65408	359	23.48427
271	17.94968	315	20.71698		
272	18.01257	316	20.77987	360	23.54716
273	18.07547	317	20.84276	361	23.61006
274	18.13836	318	20.90566	362	23.67295
275	18.20125	319	20.96855		

1½-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
363	23.73584	409	26.62893	455	29.52201
364	23.79874	410	26.69182	456	29.58490
365	23.86163	411	26.75471	457	29.64779
366	23.92452	412	26.81760	458	29.71069
367	23.98742	413	26.88050	459	29.77358
368	24.05031	414	26.94339	460	29.83647
369	24.11320	415	27.00628	461	29.89937
		416	27.06918	462	29.96226
370	24.17610	417	27.13207	463	30.02515
371	24.23899	418	27.19496	464	30.08804
372	24.30188	419	27.25786	465	30.15094
373	24.36477			466	30.21383
374	24.42767	420	27.32075	467	30.27672
375	24.49056	421	27.38364	468	30.33962
376	24.55345	422	27.44654	469	30.40251
377	24.61635	423	27.50943		
378	24.67924	424	27.57232	470	30.46540
379	24.74213	425	27.63521	471	30.52830
		426	27.69811	472	30.59119
380	24.80503	427	27.76100	473	30.65408
381	24.86792	428	27.82389	474	30.71698
382	24.93081	429	27.88679	475	30.77987
383	24.99371			476	30.84276
384	25.05660	430	27.94968	477	30.90566
385	25.11949	431	28.01257	478	30.96855
386	25.18238	432	28.07547	479	31.03144
387	25.24528	433	28.13836		
388	25.30817	434	28.20125	480	31.09433
389	25.37106	435	28.26415	481	31.15723
		436	28.32704	482	31.22012
390	25.43396	437	28.38993	483	31.28301
391	25.49685	438	28.45282	484	31.34591
392	25.55974	439	28.51572	485	31.40880
393	25.62264			486	31.47169
394	25.68553	440	28.57861	487	31.53459
395	25.74842	441	28.64150	488	31.59748
396	25.81132	442	28.70440	489	31.66037
397	25.87421	443	28.76729		
398	25.93710	444	28.83018	490	31.72327
399	25.99999	445	28.89308	491	31.78616
		446	28.95597	492	31.84905
400	26.06289	447	29.01886	493	31.91194
401	26.12578	448	29.08176	494	31.97484
402	26.18867	449	29.14465	495	32.03773
403	26.25157			496	32.10062
404	26.31446	450	29.20754	497	32.16352
405	26.37735	451	29.27043	498	32.22641
406	26.44025	452	29.33333	499	32.28930
407	26.50314	453	29.39622		
408	26.56603	454	29.45911	500	32.35220

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 2 Pounds Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
-25	.12984	7½	1.33536	34	2.95121
-24	.15977	8	1.36585	35	3.01219
-23	.18970	8½	1.39634	36	3.07316
-22	.21962	9	1.42682	37	3.13414
-21	.24955	9½	1.45731	38	3.19511
-20	.27948			39	3.25609
-19	.30941	10	1.48780		
-18	.33934	10½	1.51829	40	3.31707
-17	.36927	11	1.54877	41	3.37804
-16	.39919	11½	1.57926	42	3.43902
		12	1.60975	43	3.50000
-15	.42912	12½	1.64024	44	3.56097
-14	.45905	13	1.67073	45	3.62194
-13	.48898	13½	1.70121	46	3.68292
-12	.51891	14	1.73170	47	3.74390
-11	.54883	14½	1.76219	48	3.80487
-10	.57876			49	3.86585
- 9	.60869	15	1.79268		
- 8	.63862	15½	1.82316	50	3.92682
- 7	.66855	16	1.85365	51	3.98780
- 6	.69847	16½	1.88414	52	4.04877
		17	1.91463	53	4.10975
- 5	.72840	17½	1.94512	54	4.17072
- 4	.75833	18	1.97560	55	4.23170
- 3	.78826	18½	2.00609	56	4.29267
- 2	.81819	19	2.03658	57	4.35365
- 1	.84812	19½	2.06707	58	4.41463
Atmos.	.87804			59	4.47560
Lb.		20	2.09755		
per Sq. In.		20½	2.12804	60	4.53658
		21	2.15853	61	4.59755
.25	.89329	21½	2.18902	62	4.65853
.5	.90853	22	2.21951	63	4.71950
.625	.91615	22½	2.25000	64	4.78048
1.	.93902	23	2.28048	65	4.84145
1½	.96951	23½	2.31097	66	4.90243
2	1.00000	24	2.34146	67	4.96341
2½	1.03048	24½	2.37194	68	5.02438
3	1.06097			69	5.08536
3½	1.09146	25	2.40243		
4	1.12195	26	2.46341	70	5.14633
4½	1.15243	27	2.52438	71	5.20731
		28	2.58536	72	5.26828
5	1.18292	29	2.64633	73	5.32926
5½	1.21341	30	2.70731	74	5.39023
6	1.24390	31	2.76829	75	5.45121
6½	1.27438	32	2.82926	76	5.51219
7	1.30487	33	2.89024	77	5.57316

—Means "Vacuum" or minus pressure.

2-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
78	5.63414	121	8.25609	165	10.93901
79	5.69511	122	8.31706	166	11.00000
		123	8.37804	167	11.06096
80	5.75609	124	8.43901	168	11.12194
81	5.81706	125	8.50000	169	11.18291
82	5.87804	126	8.56096		
83	5.93901	127	8.62194	170	11.24390
84	6.00000	128	8.68291	171	11.30486
85	6.06097	129	8.74390	172	11.36584
86	6.12194			173	11.42681
87	6.18292	130	8.80487	174	11.48780
88	6.24390	131	8.86584	175	11.54877
89	6.30487	132	8.92682	176	11.60974
		133	8.98789	177	11.67072
90	6.36584	134	9.04877	178	11.73170
91	6.42682	135	9.10974	179	11.79267
92	6.48780	136	9.17072		
93	6.54877	137	9.23170	180	11.85364
94	6.60975	138	9.29267	181	11.91462
95	6.67072	139	9.35365	182	11.97560
96	6.73170			183	12.03657
97	6.79267	140	9.41462	184	12.09755
98	6.85365	141	9.47560	185	12.15852
99	6.91462	142	9.53657	186	12.21950
		143	9.59755	187	12.28047
100	6.97560	144	9.65852	188	12.34145
101	7.03657	145	9.71950	189	12.40242
102	7.09755	146	9.78047		
103	7.15853	147	9.84145	190	12.46340
104	7.21950	148	9.90243	191	12.52437
105	7.28048	149	9.96340	192	12.58535
106	7.34145			193	12.64633
107	7.40243	150	10.02438	194	12.70730
108	7.46340	151	10.08535	195	12.76828
109	7.52438	152	10.14633	196	12.82925
		153	10.20730	197	12.89023
110	7.58535	154	10.26828	198	12.95120
111	7.64633	155	10.32925	199	13.01218
112	7.70731	156	10.39023		
113	7.76828	157	10.45121	200	13.07315
114	7.82926	158	10.51218	201	13.13414
115	7.89023	159	10.57316	202	13.19512
116	7.95121			203	13.25609
117	8.01218	160	10.63413	204	13.31707
118	8.07316	161	10.69511	205	13.37804
119	8.13413	162	10.75608	206	13.43902
		163	10.81706	207	13.50000
120	8.19511	164	10.87803	208	13.56097

2-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
209	13.62195	252	16.24390	296	18.92682
		253	16.30487	297	18.98780
210	13.68292	254	16.36585	298	19.04878
211	13.74390	255	16.42682	299	19.10975
212	13.80487	256	16.48780		
213	13.86585	257	16.54878	300	19.17073
214	13.92682	258	16.60975	301	19.23170
215	13.98780	259	16.67073	302	19.29268
216	14.04878			303	19.35365
217	14.10975	260	16.73170	304	19.41463
218	14.17073	261	16.79268	305	19.47560
219	14.23170	262	16.85365	306	19.53658
		263	16.91463	307	19.59756
220	14.29268	264	16.97560	308	19.65853
221	14.35365	265	17.03658	309	19.71951
222	14.41463	266	17.09756		
223	14.47560	267	17.15853	310	19.78048
224	14.53658	268	17.21951	311	19.84146
225	14.59756	269	17.28048	312	19.90243
226	14.65853			313	19.96341
227	14.71951	270	17.34146	314	20.02439
228	14.78048	271	17.40243	315	20.08536
229	14.84146	272	17.46341	316	20.14634
		273	17.52439	317	20.20731
230	14.90243	274	17.58536	318	20.26829
231	14.96341	275	17.64634	319	20.32926
232	15.02439	276	17.70731		
233	15.08536	277	17.76829	320	20.39024
234	15.14634	278	17.82926	321	20.45121
235	15.20731	279	17.89024	322	20.51219
236	15.26829			323	20.57317
237	15.32926	280	17.95121	324	20.63414
238	15.39024	281	18.01219	325	20.69512
239	15.45121	282	18.07317	326	20.75609
		283	18.13414	327	20.81707
240	15.51219	284	18.19512	328	20.87804
241	15.57317	285	18.25609	329	20.93902
242	15.63414	286	18.31707		
243	15.69512	287	18.37804	330	21.00000
244	15.75609	288	18.43902	331	21.06097
245	15.81707	289	18.50000	332	21.12195
246	15.87804			333	21.18292
247	15.93902	290	18.56097	334	21.24390
248	16.00000	291	18.62195	335	21.30487
249	16.06097	292	18.68292	336	21.36585
		293	18.74390	337	21.42682
250	16.12195	294	18.80487	338	21.48780
251	16.18292	295	18.86585	339	21.54878

2-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
340	21.60975	384	24.29268	428	26.97560
341	21.67073	385	24.35365	429	27.03658
342	21.73170	386	24.41463		
343	21.79268	387	24.47560	430	27.09756
344	21.85365	388	24.53658	431	27.15853
345	21.91463	389	24.59756	432	27.21951
346	21.97560			433	27.28048
347	22.03658	390	24.65853	434	27.34146
348	22.09756	391	24.71951	435	27.40243
349	22.15853	392	24.78048	436	27.46341
		393	24.84146	437	27.52439
350	22.21951	394	24.90243	438	27.58536
351	22.28048	395	24.96341	439	27.64634
352	22.34146	396	25.02439		
353	22.40243	397	25.08536	440	27.70731
354	22.46341	398	25.14634	441	27.76829
355	22.52439	399	25.20731	442	27.82926
356	22.58536			443	27.89024
357	22.64634	400	25.26829	444	27.95121
358	22.70731	401	25.32926	445	28.01219
359	22.76829	402	25.39024	446	28.07317
		403	25.45121	447	28.13414
360	22.82926	404	25.51219	448	28.19512
361	22.89024	405	25.57317	449	28.25609
362	22.95121	406	25.63414		
363	23.01219	407	25.69512	450	28.31707
364	23.07317	408	25.75609	451	28.37804
365	23.13414	409	25.81707	452	28.43902
366	23.19512			453	28.50000
367	23.25609	410	25.87804	454	28.56097
368	23.31707	411	25.93902	455	28.62195
369	23.37804	412	26.00000	456	28.68292
		413	26.06097	457	28.74390
370	23.43902	414	26.12195	458	28.80487
371	23.50000	415	26.18292	459	28.86585
372	23.56097	416	26.24390		
373	23.62195	417	26.30487	460	28.92682
374	23.68292	418	26.36585	461	28.98780
375	23.74390	419	26.42682	462	29.04878
376	23.80487			463	29.10975
377	23.86585	420	26.48780	464	29.17073
378	23.92682	421	26.54878	465	29.23170
379	23.98780	422	26.60975	466	29.29268
		423	26.67073	467	29.35365
380	24.04878	424	26.73170	468	29.41463
381	24.10975	425	26.79268	469	29.47560
382	24.17073	426	26.85365		
383	24.23170	427	26.91463	470	29.53658

2-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
471	29.59756	481	30.20731	491	30.81707
472	29.65853	482	30.26829	492	30.87804
473	29.71951	483	30.32926	493	30.93902
474	29.78048	484	30.39024	494	31.00000
475	29.84146	485	30.45121	495	31.06097
476	29.90243	486	30.51219	496	31.12195
477	29.96341	487	30.57317	497	31.18292
478	30.02439	488	30.63414	498	31.24390
479	30.08536	489	30.69512	499	31.30487
480	30.14634	490	30.75609	500	31.36585

Multipliers for Reducing Gas Volumes or Meter Readings to a Pressure Base of 3 Pounds Above Atmospheric Pressure

GAUGE PRESSURE Inches of Mercury	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
—25	.12238	11	1.45977	55	3.98850
—24	.15059	12	1.51724	56	4.04597
—23	.17879	13	1.57471	57	4.10344
—22	.20700	14	1.63218	58	4.16091
—21	.23521	15	1.68965	59	4.21839
—20	.26342	16	1.74712		
—19	.29163	17	1.80459	60	4.27586
—18	.31983	18	1.86206	61	4.33333
—17	.34804	19	1.91954	62	4.39080
—16	.37625			63	4.44827
		20	1.97701	64	4.50574
—15	.40446	21	2.03448	65	4.56321
—14	.43267	22	2.09195	66	4.62068
—13	.46088	23	2.14942	67	4.67816
—12	.48908	24	2.20689	68	4.73563
—11	.51729	25	2.26436	69	4.79310
—10	.54550	26	2.32183		
— 9	.57371	27	2.37931	70	4.85057
— 8	.60192	28	2.43678	71	4.90804
— 7	.63012	29	2.49425	72	4.96551
— 6	.65833			73	5.02298
		30	2.55172	74	5.08045
— 5	.68654	31	2.60919	75	5.13793
— 4	.71475	32	2.66666	76	5.19540
— 3	.74296	33	2.72413	77	5.25287
— 2	.77116	34	2.78160	78	5.31034
— 1	.79937	35	2.83908	79	5.36781
Atmos.	.82758	36	2.89655		
		37	2.95402	80	5.42528
Lb.		38	3.01149	81	5.48275
per Sq. In.		39	3.06896	82	5.54022
.25	.84195			83	5.59770
.5	.85632	40	3.12643	84	5.65517
.75	.87068	41	3.18390	85	5.71264
1.	.88505	42	3.24137	86	5.77011
1.5	.91379	43	3.29885	87	5.82758
2.	.94252	44	3.35632	88	5.88505
2.5	.97126	45	3.41379	89	5.94252
3.	1.0000	46	3.47126		
3	1.00000	47	3.52873	90	6.00000
4	1.05747	48	3.58620	91	6.05747
		49	3.64367	92	6.11494
5	1.11494			93	6.17241
6	1.17241	50	3.70114	94	6.22988
7	1.22988	51	3.75862	95	6.28735
8	1.28735	52	3.81609	96	6.34482
9	1.34482	53	3.87356	97	6.40229
10	1.40229	54	3.93103	98	6.45977

—Means "Vacuum" or minus pressure.

3-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
99	6.51724	142	8.98850	186	11.51724
		143	9.04597	187	11.57471
100	6.57471	144	9.10344	188	11.63218
101	6.63218	145	9.16091	189	11.68965
102	6.68965	146	9.21839		
103	6.74712	147	9.27586	190	11.74712
104	6.80459	148	9.33333	191	11.80459
105	6.86206	149	9.39080	192	11.86206
106	6.91954			193	11.91954
107	6.97701	150	9.44827	194	11.97701
108	7.03448	151	9.50574	195	12.03448
109	7.09195	152	9.56321	196	12.09195
		153	9.62068	197	12.14942
110	7.14942	154	9.67816	198	12.20689
111	7.20689	155	9.73563	199	12.26436
112	7.26436	156	9.79310		
113	7.32183	157	9.85057	200	12.32183
114	7.37931	158	9.90804	201	12.37931
115	7.43678	159	9.96551	202	12.43678
116	7.49425			203	12.49425
117	7.55172	160	10.02298	204	12.55172
118	7.60919	161	10.08045	205	12.60919
119	7.66666	162	10.13793	206	12.66666
		163	10.19540	207	12.72413
120	7.72413	164	10.25287	208	12.78160
121	7.78160	165	10.31034	209	12.83908
122	7.83908	166	10.36781		
123	7.89655	167	10.42528	210	12.89655
124	7.95402	168	10.48275	211	12.95402
125	8.01149	169	10.54022	212	13.01149
126	8.06896			213	13.06896
127	8.12643	170	10.59770	214	13.12643
128	8.18390	171	10.65517	215	13.18390
129	8.24137	172	10.71264	216	13.24137
		173	10.77011	217	13.29885
130	8.29885	174	10.82758	218	13.35632
131	8.35632	175	10.88505	219	13.41379
132	8.41379	176	10.94252		
133	8.47126	177	11.00000	220	13.47126
134	8.52873	178	11.05747	221	13.52873
135	8.58620	179	11.11494	222	13.58620
136	8.64367			223	13.64367
137	8.70114	180	11.17251	224	13.70114
138	8.75862	181	11.22988	225	13.75862
139	8.81609	182	11.28735	226	13.81609
		183	11.34482	227	13.87356
140	8.87356	184	11.40229	228	13.93103
141	8.93103	185	11.45977	229	13.98850

3-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
230	14.04597	274	16.57471	318	19.10344
231	14.10344	275	16.63218	319	19.16091
232	14.16091	276	16.68965		
233	14.21839	277	16.74712	320	19.21839
234	14.27586	278	16.80459	321	19.27586
235	14.33333	279	16.86206	322	19.33333
236	14.39080			323	19.39080
237	14.44827	280	16.91954	324	19.44827
238	14.50574	281	16.97701	325	19.50574
239	14.56321	282	17.03448	326	19.56321
		283	17.09195	327	19.62068
240	14.62068	284	17.14942	328	19.67816
241	14.67816	285	17.20689	329	19.73563
242	14.73563	286	17.26436		
243	14.79310	287	17.32183	330	19.79310
244	14.85057	288	17.37931	331	19.85057
245	14.90804	289	17.43678	332	19.90804
246	14.96551			333	19.96551
247	15.02298	290	17.49425	334	20.02298
248	15.08045	291	17.55172	335	20.08045
249	15.13793	292	17.60919	336	20.13793
		293	17.66666	337	20.19540
250	15.19540	294	17.72413	338	20.25287
251	15.25287	295	17.78160	339	20.31034
252	15.31034	296	17.83908		
253	15.36781	297	17.89655	340	20.36781
254	15.42528	298	17.95402	341	20.42528
255	15.48275	299	18.01149	342	20.48275
256	15.54022			343	20.54022
257	15.59770	300	18.06896	344	20.59770
258	15.65517	301	18.12643	345	20.65517
259	15.71264	302	18.18390	346	20.71264
		303	18.24137	347	20.77011
260	15.77011	304	18.29885	348	20.82758
261	15.82758	305	18.35632	349	20.88505
262	15.88505	306	18.41379		
263	15.94252	307	18.47126	350	20.94252
264	16.00000	308	18.52873	351	21.00000
265	16.05747	309	18.58620	352	21.05747
266	16.11494			353	21.11494
267	16.17241	310	18.64367	354	21.17241
268	16.22988	311	18.70114	355	21.22988
269	16.28735	312	18.75862	356	21.28735
		313	18.81609	357	21.34482
270	16.34482	314	18.87356	358	21.40229
271	16.40229	315	18.93103	359	21.45976
272	16.45977	316	18.98850		
273	16.51724	317	19.04597	360	21.51724

3-Pound Multipliers—(Continued)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Destiny	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
361	21.57471	405	24.10344	449	26.63218
362	21.63218	406	24.16091		
363	21.68965	407	24.21839	450	26.68965
364	21.74712	408	24.27586	451	26.74712
365	21.80459	409	24.33333	452	26.80459
366	21.86206			453	26.86206
367	21.91954	410	24.39080	454	26.91954
368	21.97701	411	24.44827	455	26.97701
369	22.03448	412	24.50574	456	27.03448
		413	24.56321	457	27.09195
370	22.09195	414	24.62068	458	27.14942
371	22.14942	415	24.67816	459	27.20689
372	22.20689	416	24.73563		
373	22.26438	417	24.79310	460	27.26436
374	22.32183	418	24.85057	461	27.32183
375	22.37931	419	24.90804	462	27.37931
376	22.43678			463	27.43678
377	22.49425	420	24.96551	464	27.49425
378	22.55172	421	25.02298	465	27.55172
379		422	25.08045	466	27.60919
	22.60919	423	25.13793	467	27.66666
380	22.66666	424	25.19540	468	27.72413
381	22.72413	425	25.25287	469	27.78160
382	22.78160	426	25.31034		
383	22.83908	427	25.36781	470	27.83908
384	22.89655	428	25.42528	471	27.89655
385	22.95402	429	25.48275	472	27.95402
386	23.01149			473	28.01149
387	23.06896	430	25.54022	474	28.06896
388	23.12643	431	25.59770	475	28.12643
389	23.18390	432	25.65517	476	28.18390
		433	25.71264	477	28.24137
390	23.24137	434	25.77011	478	28.29885
391	23.29885	435	25.82758	479	28.35632
392	23.35632	436	25.88505		
393	23.41379	437	25.94252	480	28.41379
394	23.47126	438	26.00000	481	28.47126
395	23.52873	439	26.05747	482	28.52873
396	23.58620			483	28.58620
397	23.64367	440	26.11494	484	28.64367
398	23.70114	441	26.17241	485	28.70114
399	23.75862	442	26.22988	486	28.75862
		443	26.28735	487	28.81609
400	23.81609	444	26.34482	488	28.87356
401	23.87356	445	26.40229	489	28.93103
402	23.93103	446	26.45977		
403	23.98850	447	26.51724	490	28.98850
404	24.04597	448	26.57471	491	29.04597

3-Pound Multipliers—(Continued.)

GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density	GAUGE PRESSURE Lb. per Sq. In.	Multiplier or Density
492	29.10344	495	29.27586	498	29.44827
493	29.16091	496	29.33333	499	29.50574
494	29.21839	497	29.39080	500	29.56321

HAND-BOOK OF NATURAL GAS

By HENRY P. WESTCOTT

MEMBER A. S. M. E. AND
NATURAL GAS ASSOCIATION

A PRACTICAL BOOK for practical workers, based on many years of experience of scores of active gas men, and covering the entire subject of Natural Gas from geology to the consumer.

Containing

188 valuable Tables on Pipe Line Capacities, etc.

Nearly 160 Illustrations from photographs and drawings.
Various Formulæ and Tables of complete mathematical calculations worked out in detail.

Everything Regarding Natural Gas from the Gas Sand to the Gas Range.

Pocket Size, 520 pages ($4\frac{5}{8} \times 7\frac{1}{2}$ "). Clearly printed from new type on specially made paper restful to the eye. Silk cloth, title in gold, \$3.50. Postpaid.

PUBLISHED BY

**METRIC METAL WORKS,
ERIE, PENN'A, U. S. A.**

50
mets

YB 24337

456251

TN880

W44

Westcott

Cap. 2

Mining

Dept.

UNIVERSITY OF CALIFORNIA LIBRARY

